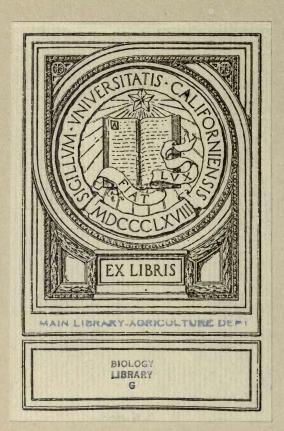
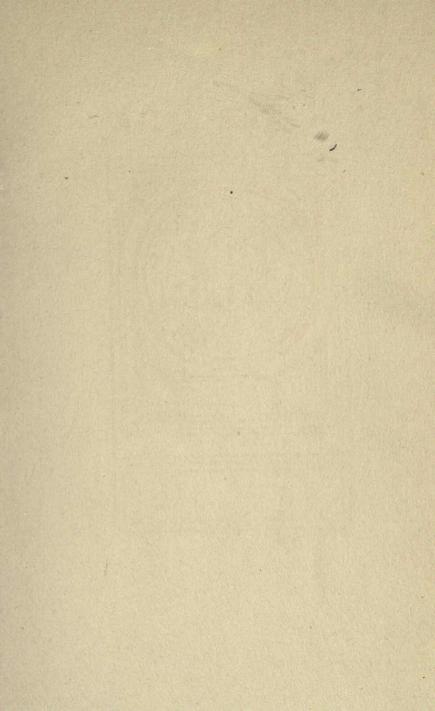
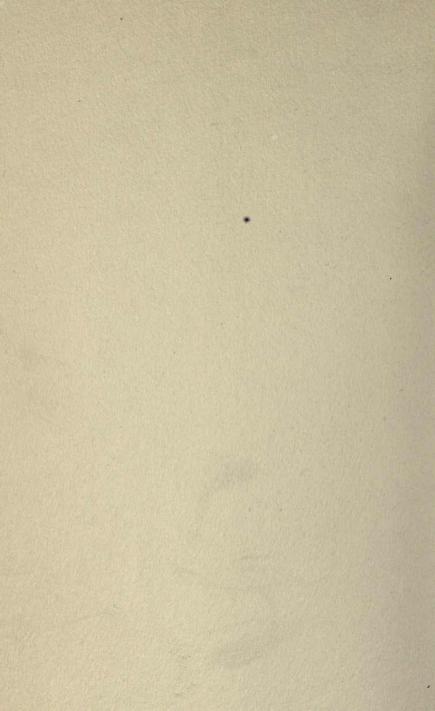
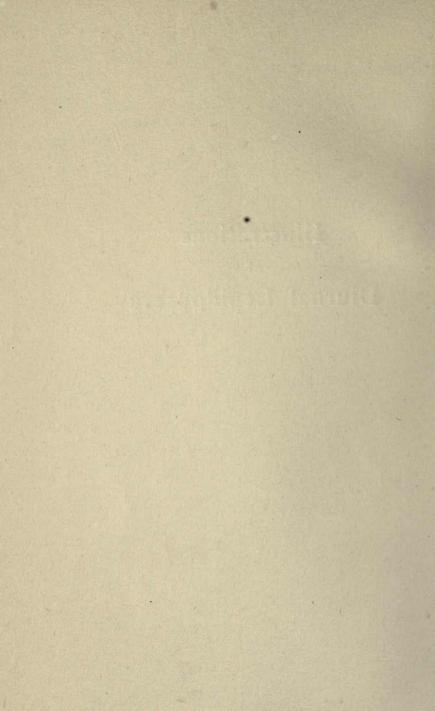
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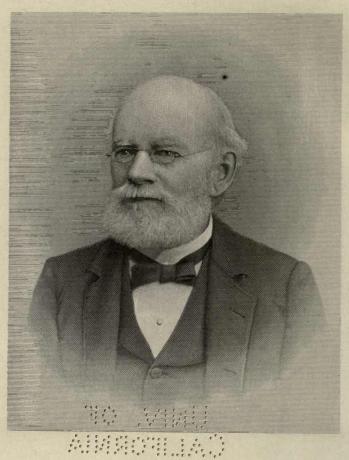






# Illustrations of Diurnal Lepidoptera





Mm H. Edwards

WILLIAM HENRY EDWARDS, born in Hunter, Greene County, N. Y., March 15, 1822, died in Coalburgh, West Virginia, April 4, 1909, was a generous contributor to our knowledge of Lepidoptera, especially of America north of Mexico.

His more prominent writings were "A Voyage up the River Amazon" (16mo, 256 pp. New York: 1847. New edition, 12mo, 8 + 210 pp. London, 1855); "The Butterflies of North America," series 1-5 (4to, illus. New York and Boston: 1868-1897); "Synopsis of North American Butterflies" (4to, 5 + 52 pp. Philadelphia: 1872); "Catalogue of the Diurnal Lepidoptera of America North of Mexico" (Trans. Amer. Ent. Soc., Vol. 6, pp. 1-68); "Revised Catalogue of the Diurnal Lepidoptera of America North of Mexico" (8vo, pp. 95. Philadelphia: 1884); also over two hundred and fifty articles in various scientific journals, as noted on following pages.

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## LIST OF THE SCIENTIFIC WRITINGS OF WILLIAM HENRY EDWARDS.

United States - President Ent Social to Language pro-

1847. 1. A voyage up the River Amazon, including a residence at Pará. New York, 1847, 16mo. 256 pp. New edition: London, 1855. 12mo. 8 + 210 pp.

1861-1862. 2. Descriptions of certain species of diurnal Lepidoptera found within the limits of the United States and of British America, no. 1-3. Proc. Philadelphia Acad., 1861, p. 160-164; 1862, p. 54-58, 221-226.

1862. 3. Notes upon Grapta comma Harris and Grapta faunus Edwards (calbum of some authors). Proc. Ent. Soc. Philadelphia, vol. 1, p. 182-184.

1862. 4. Descriptions of certain species of diurnal Lepidoptera found within the United States figured in Doubleday's Genera but undescribed. Proc.

Ent. Soc. Philadelphia, vol. 1, p. 221-224.

1863–1866. 5. Description of certain species of diurnal Lepidoptera found within the limits of the United States and British America, no. 1-5. Trans. Ent. Soc. Philadelphia, vol. 2, p. 14-22, 78-82, 501-507; vol. 4, p. 201-204; vol. 6, p. 200-208.

1864. 6. Descriptions of certain species of Catocala found within the United

States. Proc. Ent. Soc. Philadelphia, vol. 2, p. 508-512.

1864. 7. Description of the female of Argynnis diana. Proc. Ent. Soc. Philadelphia, vol. 3, p. 431-434.

1864. 8. Notes on the Argynnides of California. Proc. Ent. Soc. Philadelphia,

vol. 3, p. 434-436.

1865. 9. Notes upon Papilio asterias and Saturnia promethea hermaphrodites. Proc. Ent. Soc. Philadelphia, vol. 4, p. 390.

1865. 10. Description of a new species of Limenitis [L. proserpina]. Proc. Ent. Soc. Philadelphia, vol. 5, p. 148.

1866. 11. On certain North American species of Satyrus. Proc. Ent. Soc. Philadelphia, vol. 6, p. 195-200.

1867. 12. Descriptions of certain species of diurnal Lepidoptera found in the United States. Trans. Amer. Ent. Soc., vol. 1, p. 286-288.

1868. 13. Description of a new Hesperian [Hesperia waco]. Trans. Amer.

Ent. Soc. vol. 2, p. 122.

1868. 14. Notes on a remarkable variety of Papilio turnus, and descriptions of two species of diurnal Lepidoptera. Trans. Amer. Ent. Soc., vol. 2, p. 207-210.

1868. 15. Papilio machaon in British America. Can. Ent., vol. 1, p. 22.

1868-1897. 16. The butterflies of North America, series 1-5. New York and Boston, 1868-1897. 4to, illus.

1869. 17. Habits of Melitaea phaeton. Can. Ent., vol. 1, p. 59-60.

1869. 18. Descriptions of certain species of diurnal Lepidoptera found in the United States. Trans. Amer. Ent. Soc., vol. 2, p. 311-312.

1877. 74. Description of the preparatory stages of Phyciodes harrisii Scudder. Can. Ent., vol. 9, p. 165-168.

1877. 75. Butterflies of Martha's Vineyard. Can. Ent., vol. 9, p. 178.

1877. 76. Descriptions of new species of butterflies belonging to the North American fauna. Can. Ent., vol. 9, p. 189-192.

1877. 77. An account of some farther experiments upon the effect of cold in changing the form of certain butterflies. Can. Ent., vol. 9, p. 203-206.

1877. 78. Descriptions of new species of diurnal Lepidoptera found in North America. Field and Forest, vol. 3, p. 86-89, 101-105

1877. 79. Descriptions of the preparatory stages of Neonympha sosybius Can. Ent., vol. 9, p. 229-231.

1878, 80. Notes on Lycaena pseudargiolus and its larval history. Can. Ent.. vol. 10, p. 1-14.

1878. St. Descriptions of new species of North American Lepidoptera. Field and Forest, vol. 3, p. 115-119, 142-144.

1878. 82. Notes upon Grapta comma and interrogationis. Can. Ent., vol. 10,

p. 69-74.

1878. 83. One word more on Lycaena pseudargiolus. Can. Ent., vol. 10, p. 80. 1878. 84. Description of the preparatory stages of Neonympha eurytris. Can. Ent., vol. 10, p. 105-108.

1878. 85. On the larvae of Lycaena pseudargiolus and attendant ants. Can.

Ent., vol. 10, p. 131-136.

1878. 86. On the scarcity of Papilionidae [in 1878] Can. Ent., vol. 10, p. 140. 1878. 87. On the honey tubes of some butterfly larvae. Can. Ent., vol. 10, p.

1878. 88. On the pupation of the Nymphalidae. Can. Ent., vol. 10, p. 224-231. Extract: Ent. Monthly Mag., vol. 15, 1879, p. 220-226.

1878. 89. Life history of Danais archippus. Psyche, vol. 2, p. 169-178.

1878. 90. Some synonyms of butterflies. Psyche, vol. 2, p. 178.

1878, QI. On the Lepidoptera collected by Dr. Elliott Coues, U. S. A., in Montana during 1874. U. S. Geol. Geogr. Surv. Terr. (Hayden), Bull., vol. 4, p. 513-517.

1879. 92. Description of the preparatory stages of Coenonympha gemma. Can.

Ent., vol. 11, p. 31-35.

1879. 93. Descriptions of new species of butterflies collected by Mr. H. K. Morrison in Nevada, 1878; also, Remarks on some errors of synonymy and arrangement. Can. Ent., vol. 11, p. 49-56, 79-80.

1879. 94. Descriptions of new species of North American butterflies; also,

Notes upon certain species. Can. Ent., vol. 11, p. 81-89.

1879. 95. Description of preparatory stages of Phyciodes nycteis. Can. Ent., vol. 11, p. 101-105.

1879. 96. Description of a new species of Melitaea from Texas [M. fulvia]. Can. Ent., vol. 11, p. 117-118.

1879. 97. Notes upon the preparatory stages of certain species of butterflies, no. 1-2. Can. Ent., vol. 11, p. 127-131, 141-143.

1879. 98. Description of preparatory stages of Argynnis egleis Boisd. Can. Ent., vol. 11, p. 177-179.

1879. 99. On the preparatory stages of certain Florida butterflies; by W. H. Edwards and A. W. Chapman. Can. Ent., vol. 11, p. 189-193.

1879. 100. Description of preparatory stages of Argynnis idalia Drury. Can. Ent., vol. 11, p. 217-219.

1879. 101. On the larval habits of Limenitis arthemis (with its co-form proserpina), and also of L. disippus. Can. Ent., vol. 11, p. 224-228.

1879. 102. Description of a new species of Pamphila [P. dion]. Can. Ent., vol. 11, p. 238-239.

1879. 103. Danais archippus swarming. Can. Ent., vol. 11, p. 239.

1879. 104. Ueber das Erziehen der Tagfalter aus Eiern. Stettin ent. Zeitung, vol. 40, p. 455-456.

1879. 105. Contributions to the natural history of arctic America, made in connection with the Howgate polar expedition, 1877-1878. Insects: Diurnal Lepidoptera. Bull. U. S. Nat. Mus., 15, p. 155-157.

1880. 106. Description of the preparatory stages of Grapta progne Cramer. Can. Ent., vol. 12, p. 9-14.

1880. 107. Experiments upon the effect of cold applied to chrysalids of butterflies. Psyche, vol. 3, p. 3-6, 15-19, 75-76.

1880. 108. On certain species of Satyrus. Can. Ent., vol. 12, p. 21-32, 51-55, 90-94, 109-115, 147.

1880. 109. Description of preparatory stages of Argynnis alcestis Edw. Can. Ent., vol. 12, p. 69-74.

1880. 110. Effects of cold applied to the ehrysalids of butterflies. Amer. Ent., vol. 3, p. 110-111.

1880. 111. Moths from Florida. North Amer. Ent., vol. 1, p. 103.

1880. 112. Description of preparatory stages of Agraulis vanillae L. Can. Ent., vol. 12, p. 122-126.

1880. 113. Chemical change of coloration in butterflies' wings; by W. H. Edwards and J. M. Wilson. Psyche, vol. 3, p. 87-88.

1880. 114. Description of the preparatory stages of Argynnis cybele Fabr. Can. Ent., vol. 12, p. 141-145.

1880. 115. Capture of a bi-formed Lycaena. Can. Ent., vol. 12, p. 160.

1880. 116. Larva of Apatura alicia. Amer. Entomologist, vol. 3 (new series, vol. 1), p. 206.

1880. 117. Description of a new species of Pamphila from Florida [P. byssus]. Can. Ent., vol. 12, p. 224-225.

1880. 118. Description of the preparatory stages of Euptoieta claudia Cramer. Can Ent., vol. 12, p. 231-235.

1880. 119. Description of a new species of Limenitis [L. eros]. Can. Ent., vol. 12, p. 246-251.

1880 [1881]. 120. Description of the preparatory stages of Apatura alicia. Psyche, vol. 3, p. 123-127.

1881. 121. Description of the preparatory stages of Papilio philenor Linn. Can. Ent., vol. 13, p. 9-14.

1881. 122. Concerning Chrysophanus nais Edw. Can. Ent., vol. 13, p. 17-18.
1881. 123. On the number of molts of butterflies, with some history of the moth Callosamia promethea. Psyche, vol. 3, p. 159-161, 171-174.

1881. 124. Descriptions of new species of diurnal Lepidoptera found within the United States. Trans. Amer. Ent. Soc., vol. 9, p. 1-8.

1881. 125. Notes on the species of Callidryas found within the United States.

Trans. Amer. Ent. Soc., vol. 9, p. 9-14.

1881. 126. Capture of Diadema bolina L. in Florida. Papilio, vol. 1, p. 30.

1881. 127. Effect of cold applied to chrysalids of Limenitis disippus. Psyche, vol. 3, p. 174.

1881. 128. Coenonympha elko. Can. Ent., vol. 13, p. 57-58.

1881. 129. Description of the preparatory stages of Terias nicippe Cramer. Can. Ent., vol. 13, p. 61-63.

1881. 130. Description of new species of butterflies. Papilio, vol. 1, p. 43-48. 1881. 131. Description of the preparatory stages of Apatura flora Edw. Can.

Ent., vol. 13, p. 81-85.

1881. 132. Description of a new Hesperian [Pamphila straton] from Florida. Papilio, vol. 1, p. 78-79.

1881. 133. On Pieris bryoniae Ochsenheimer, and its derivative forms in Europe

and America. Papilio, vol. 1, p. 83-99.
1881. 134. Description of the preparatory stages of Papilio palamedes Drury (calchas Fab.). Can. Ent, vol. 13, p. 119-123.

1881. 135. Description of preparatory stages of Heliconia charitonia Linn. Can. Ent., vol. 13, p. 158-162.

1881. 136. Some remarks on the alleged abnormal peculiarities of Argynnis myrina. Papilio, vol. 1, p. 134-141.

1881. 137. Description of the preparatory stages of Thecla henrici Grote. Papilio, vol. 1, p. 150-152.

1881. 138. On the length of life of butterflies. Can. Ent., vol. 13, p. 205-214.

Abstract: Amer. nat., vol. 15, p. 868-869. 1881. 139. Description of the preparatory stages of Libythea bachmanni Kirtland. Can. Ent., vol. 13, p. 226-229.

1881. 140. Is Limenitis arthemis a double-brooded species? Can. Ent., vol. 13,

p. 237-242.

1881. 141. On certain habits of Heliconia charitonia Linn., a species of butterfly found in Florida. Papilio, vol. 1, p. 209-215.

1881. 142. Description of a new species of Chrysophanus [C. snowi].

Kansas Acad. Sc., vol. 7, p. 69-70. 1882. 143. Descriptions of two new species of North American butterflies [Chionobas varuna, Ancyloxypha lena]: with list of butterflies taken by

H. K. Morrison in Dakota and Montana, 1881. Can. Ent., vol. 14, p. 2-6. 1882. 144. Notes on certain butterflies, their habits, etc., no. 1-2. Can. Ent., vol. 14, p. 21-28, 49-56.

1882. 145. Note on Chionobas varuna. Can. Ent., vol. 14, p. 28-29.

1882. 146. Note on Limenitis ursula. Can. Ent., vol. 14, p. 29. 1882. 147. Habits of butterflies. Amer. Nat., vol. 16, p. 122-123.

1882. 148. Description of species of butterflies taken in Arizona by J. Doll, 1881. Papilio, vol. 2, p. 19-29.

1882. 149. Description of new species of butterflies found in the United States. Papilio, vol. 2, p. 45-49.

1882. 150. On the American form of Papilio machaon Linn. Papilio, vol. 2, p. 74-77.

1882. 151. Description of the preparatory stages of Debis portlandia Fabr. Can. Ent., vol. 14, p. 84-88.

1882. 152. Note on Papilio polydamas Linn. Can. Ent., vol. 14, p. 120. 1882. 153. Note on Chionobas tarpeia Esper. Can. Ent., vol. 14, p. 120.

1882. 154. Description of a new species of Copaeodes [C. wrightii]. Can. Ent., vol. 14, p. 152-153.

1882. 155. Description of the preparatory stages of Neonympha areolatus Smith-Abbot. Can. Ent., vol. 14, p. 162-166.

1882. 156. Papilio polydamas in Florida. Papilio, vol. 2, p. 122.

1882. 157. Descriptions of new species of diurnal Lepidoptera taken by Mr. H. K. Morrison at Fort Grant and in Graham Mountains, Arizona, 1882. Papilio, vol. 2, p. 136-143, 189.

1882. 158. Description of the preparatory stages of Grapta comma Harris.

Can. Ent., vol. 14, p. 189-194.

1882. 159. Description of a new species of Lycaena from Newfoundland [L. aster]. Can. Ent., vol. 14, p. 194-195.

1882. 160. Two new species of Thanaos [T. tatius, T. clitus]. Papilio, vol. 2,

р. 179-180.

1882. 161. On a certain habit of Heliconia charitonia. Abstract. Amer. Assoc. Adv. Sc., Proc. 30th meeting, 1881, p. 279.

1882 [1883]. 162. Description of the preparatory stages of Grapta interrogationis Fab. Can. Ent., vol. 14, p. 201-207.

1882-1883. 163. Description of the preparatory stages of Pyrameis atalanta Linn. Can. Ent., vol. 14, p. 229-234; vol. 15, p. 14-20.

1883. 164. Notes on the collection of butterflies made by Mr. H. K. Morrison in Arizona, 1882. Papilio, vol. 3, p. 1-10.

1883. 165. Descriptions of new species of diurnal Lepidoptera found in British America and the United States. Can. Ent., vol. 15, p. 32-36.

1883. 166. Newfoundland butterflies collected by P. H. Gosse. Can. Ent., vol. 15, p. 43-44.

1883. 167. Comments on Dr. Hagen's paper on Papilio machaon, etc. Papilio, vol. 3, p. 45-61.

1883. 168. Localities of butterflies. Papilio, vol. 3, p. 65.

1883. 169. Willow a food-plant of Papilio rutulus. Papilio, vol. 3, p. 65.

1883. 170. Descriptions of new species of Hesperians found in the United States. Papilio, vol. 3, p. 71-73.

1883. 171. Description of the preparatory stages of Neonympha canthus Linn. (except the chrysalis). Can. Ent., vol. 15, p. 64-69.

1883. 172. On the polymorphism of Lycaena pseudargiolus Boisd. Papilio, vol. 3, p. 85-97.

1883. 173. Capitalizing specific names. Papilio, vol. 3, p. 103-104.

1883. 174. Thecla laeta. Papilio, vol. 3, p. 123.

1883. 175. Description of a new species of Thecla from Florida [T. wittfeldi]. Can. Ent., vol. 15, p. 136-137.

1883. 176. Notes on Dr. Speyer's paper on the Hesperidae sent to him by the author. Can. Ent., vol. 15, p. 141-151.

1883. 177. Notes upon a small collection of butterflies, made in Judith Mountains, Montana, in 1883, by Wm. M. Courtis, M. E. Papilio, vol. 3,

p. 157-164. 1883. 178. Comments on a paper by Dr. H. A. Hagen entitled "The Genus

Colias." Papilio, vol. 3, p. 169-185.

1883. 179. Life-histories of butterflies. Amer. Nat., vol. 17, p. 1068-1069.
1883 [1884]. 180. Descriptions of new species of North American butterflies.
Can. Ent., vol. 15, p. 209-211.

1883 [1884]. 181. History of the preparatory stages of Colias eurydice Boisd., with remarks upon the genus Megonostoma Reakirt. Can. Ent., vol. 15, p. 224-228.

1884. 182. Description of Lycaena daedalus Behr, and correction of errors in

its synonymy. Can. Ent., vol. 16, p. 2-5.

1884. 183. Description of the preparatory stages of Colias harfordii H. Edw. Q barbara H. Edw. Papilio, vol. 4, p. 2-7.

1884. 184. Notes upon Colias christina Edw. and C. astraea Edw. Papilio, vol. 4, p. 30-34.

1884. 185. Capitalizing specific names. Papilio, vol. 4, p. 34-35.

1884. 186. Descriptions of new species of butterflies mostly from Arizona. Papilio, vol. 4, p. 53-58.

1884. 187. Limenitis eros Edw. Papilio, vol. 4, p. 62.

1884. 188. Description of the preparatory stages of Melitaea chalcedon Boisd., with some notes on larvae of M. phaeton. Papilio, vol. 4, p. 63-70.

1884. 189. Description of the preparatory stages of Lycaena Melissa Edw.

Papilio, vol. 4, p. 91-93.

1884. 190. Occurrence of Callidryas philea L. and Terias mexicana in Wisconsin. Papilio, vol. 4, p. 113.

1884. 191. Notes on butterflies, with directions for breeding them from the

egg. Can. Ent., vol. 16, p. 81-89, 109-117.

1884. 192. Revised catalogue of the diurnal Lepidoptera of America north of Mexico. Trans. Amer. Ent. Soc., vol. 11, p. 245-337. Separate: Philadelphia, 1884 [1885]. 8vo. 95 pp.

1884. 193. History of the preparatory stages of Phyciodes picta Edw. Can.

Ent., vol. 16, p. 163-167.

1884. 194. Description of the preparatory stages of Phyciodes camillus Edw. Papilio, vol. 4, p. 128-131.

1884. 195. Description of the preparatory stages of Papilio zolicaon Boisd.

Papilio, vol. 4, p. 162-166.

1884. 196. On some historical errors. Papilio, vol. 4, p. 167-171.

1884. 197. List of species of the diurnal Lepidoptera of America north of Mexico. Boston, 1884. 4to. (16) pp.

1884 [1885]. 198. Further experiments upon the effect of cold applied to the chrysalis of butterflies. Can. Ent., vol. 16, p. 232-236.

1885. 199. Description of some of the preparatory stages of Parnassius smintheus Doubl. and of P. clodius Mén. Can. Ent., vol. 17, p. 61-65.

1885. 200. Description of a new species of Chionabas from British America [C. macounii]. Can. Ent., vol. 17, p. 74-75.

1885. 201. Description of mature larva and chrysalis of Nisoniades icelus

Lintner. Can. Ent., vol. 17, p. 98-100.

1885. 202. Miscellaneous notes on butterflies, habits of larva, etc. Can. Ent.,

vol. 17, p. 108-114, 140.

1885. 203. Description of the last larval stages and chrysalis of Melitaea rubicunda H. Edw. Can. Ent., vol. 17, p. 155-157.

1885. 204. Note on habit of larva of Papilio atalanta. Can. Ent., vol. 17, p. 179.

1885. 205. History of the preparatory stages of Vanessa milberti Godart. Can. Ent., vol. 17, p. 181-188.

1885. 206. On willow as food-plant of Papilio turnus. Can. Ent., vol. 17, p. 232.

1885. 207. Description of the preparatory stages of Pholisora catullus Fabricius. Can. Ent., vol. 17, p. 245-248.

1886. 208. Miscellaneous notes on butterflies, their larvae, etc. Can. Ent., vol. 18, p. 14-18.

1886. 209. Description of new species of butterflies found in the United States-Can. Ent., vol. 18, p. 61-65.

1886. 210. Description of the preparatory stages of Satyrus charon Edw. Can. Ent., vol. 18, p. 88-92.

1886. 211. On willow as food-plant of Papilio turnus. Can. Ent., vol. 18, p. 139-140.

1886, 212. On the history and the preparatory stages of Feniseca tarquinius Fabr. Can. Ent., vol. 18, p. 141-153.

1886 [1887]. 213. Description of the preparatory stages of Coenonympha galactinus Boisduval. Can. Ent., vol. 18, p. 201-204.

1887. 214. Note on the European Grapta c-album. Can. Ent., vol. 19, p. 2-4. 1887. 215. Review: "The butterflies of New England," by C. J. Maynard. Can. Ent., vol. 19, p. 34-40.

1887. 216. Description of the preparatory stages of Coenonympha ampelos Edw. Can. Ent., vol. 19, p. 41-44.

1887. 217. On the position of Colias hagenii Edw. Can. Ent., vol. 19, p. 170-175.

1887. 218. On Colias eriphyle Edw. and C. hagenii Edw. Can. Ent., vol. 19, p. 218-220.

1887. 219. History of the preparatory stages of Colias alexandra Edw. Can. Ent., vol. 19, p. 226-230.

1888. 220. Description of the preparatory stages of Argynnis atlantis Edw Can. Ent., vol. 20, p. 1-3.

1888. 221. Description of the preparatory stages of Argynnis edwardsii Reakirt. Can. Ent., vol. 20, p. 3-5.

1888. 222. Description of the preparatory stages of Colias caesonia Stoll. Can. Ent., vol. 20, p. 21-24.

1888. 223. Description of the preparatory stages of Paphia troglodyta Fabr. (glycerium Edw., Butt. N. A., vol. 1, pl. 46; andria Scud.). Can. Ent., vol. 20, p. 41-45.

1888. 224. Description of the preparatory stages of Argynnis hesperis Edw. Can. Ent., vol. 20, p. 67-69.

1888. 225. Descriptions of two new species of Melitaeas belonging to North America [M. brucei, M. taylori]. Can. Ent., vol. 20, p. 81-84.

1888. 226. Notes on Danais archippus. Can. Ent., vol. 20, p. 84-86.

1888. 227. On Diadema misippus Linn, in Florida. Can. Ent., vol. 20, p. 128. 1888. 228. [Death of Miss Annie M. Wittfeld.] Can. Ent., vol. 20, p. 140.

1888. 229. Description of a new species of Anthocharis [A. pima]. Can. Ent., vol. 20, p. 158-159.

1889. 230. Description of the preparatory stages of Colias meadii Edwards. Can. Ent., vol. 21, p. 41-43.

1889. 231. Description of the preparatory stages of Arge galathea Linn., with notes on certain Satyrinae. Can. Ent., vol. 21, p. 61-71, 81-95.

1889. 232. Which are the highest butterflies? Nature, vol. 39, p. 611-612.

1890. 233. Description of a new species of Melitaea from southern California [M. augusta]. Can. Ent., vol. 22, p. 21-23.

1890. 234. Notes on Erebia epipsodea Butler. Can. Ent., vol. 22, p. 48-52.

1890. 235. On certain statements in Scudder's "Butterflies of New England." Can. Ent., vol. 22, p. 61-67.

1890. 236. Correction of an error [in regard to Argynnis erinna]. Can. Ent., vol. 22, p. 75.

1890. 237. Notes on "A revision of the genus Argynnis," by Henry J. Elwes. Can. Ent., vol. 22, p. 81-93.

1890. 238. Description of a new species of Argynnis from Canada [A. alberta]. Can. Ent., vol. 22, p. 113-114.

1891. 239. Chionobas bore. Can. Ent., vol. 23, p. 16.

1891. 240. Description of a new species of Erebia [E. ethela], and notes on the so-called Chionobas bore of Colorado. Can. Ent., vol. 23, p. 31-33.

1891. 241. Review: "Among the moths and butterflies" by Julia P. Ballard. Can. Ent., vol. 23, p. 44; Ann. rep., 1891, Ent. Soc. Ontario, 1892, p. 98.

1891. 242. On the position of Limenitis proserpina Edw. Can. Ent., vol. 23, p. 49-56.

1891. 243. Description of a new species of Argynnis from Alberta Territory [A. victoria]. Can. Ent., vol. 23, p. 198-199.

1892. 244. "Butterflies that bathe." Can. Ent., vol. 24, p. 16.

1892. 245. Miscellaneous notes on butterflies, larvae, etc. Can. Ent., vol. 24, p. 49-56, 105-111.

1893. 246. Notes on Chionobas subhyalina Curtis. Can. Ent., vol. 25, p. 137-139.

1893. 247. Notes on a polymorphic butterfly. Can. Ent., vol. 25, p. 253-254.

1893. 248, Notes on a polymorphic butterfly, Synchloe lacinia Geyer (in Hüb. Zutr.), with description of its preparatory stages. Can. Ent., vol. 25, p. 286-291.

1894. 249. Description of the preparatory stages of Phyciodes carlota Reakirt (Charidryas ismeria Scudder). Can. Ent., vol. 26, p. 3-8.

1894. 250. Notes upon Lycaena exilis Boisduval, with descriptions of some of its early stages. Can. Ent., vol. 26, p. 37-38.

1894. 251. Notes on "A revision of the genus Oeneis" (Chionobas), by Henry J. Elwes and James Edwards. Can. Ent., vol. 26, p. 55-64.

1894. 252. On Chionobas alberta Elwes. Can. Ent., vol. 26, p. 192.

1894. 253. Obituary: [Mrs. Julia Perkins Ballard]. Can. Ent., vol. 26, p. 234. 1895. 254. Notes on collecting butterflies in western Colorado, with a particular account of certain Papilios. Can. Ent., vol. 27, p. 229-242.

1898. 255. Notes upon Sphinx catalpae at Coalburgh, W. Va. Can. Ent., vol. 30, p. 7-8.

1898. 256. Further observations on Papilio bairdii Edw. Can. Ent., vol. 30, p. 11.

## Illustrations

of

## Diurnal Lepidoptera

With Descriptions

By
Andrew Gray Weeks, Jr.

Second Volume

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## PREFACE

THIS volume is a continuance of the work contained in the first volume, published in 1905. Like the first volume, it is simply a reproduction from scientific publications of the descriptions of new species which have fallen into my hands, with the addition of colored plates which are a necessary adjunct to satisfactory descriptive work of this nature.

The first volume comprised species from Bolivia and a few from other districts. This volume is confined to species taken in the neighborhood of the Suapure River in Venezuela.

ANDREW GRAY WEEKS, JR.

Boston, December, 1910.

## PREFACE

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Water-color sketches from nature by J. Henry Blake.

Lithographed by B. Meisel.

## LIST OF SPECIES RECEIVED FROM SUAPURE, VENEZUELA.

Danais gilippus, var. eresimus	. Cram.	Euptychia quadrina.	Butl.
Lycorea ceres.	Cram.	picea.	Butl.
Ceratinea barii.	Bates.	pallida.	Butl.
Sais rosalia.	Cram.	phares.	Godt.
Scada theaphia.	Bates.	atalanta.	Butl.
Napeogenes sulphurina.	Bates.	thalassa.	Hew.
Ithomia makrena.	Hew.	Taygetis penelea.	Cram.
galata.	Hew.	mermeria.	Cram.
hymenaea.	Pritt.	thamyra.	Cram.
Melinaea mnema.	Linn.	valentina.	Cram.
egina.	Cram.	erubescens.	Butl.
machus.	Hew.	calliomma.	Feld.
Tithoria furia.	10 <u>20</u> 12	echo.	Cram.
Haetera piera.	Linn.	celia.	Cram.
lena.	Linn.	leuctra.	Butl.
Pierella astyoche.	Erichs.	andromeda.	Cram.
dracontis.	Hübn.	Bia actorion.	Linn.
Antirrhaea lindigii.	Feld.	Morpho deidamia.	Hübn.
philoctetes.	Linn.	eugemea.	Derv.
Caerois chorinaeus.	Fabr.	achilles.	Linn.
Euptychia hesione.	Sulz.	rhetenor var. caeicus.	Stgr.
camerta.	Cram.	menelaus.	Linn.
erigone.	Butl.	pyrrhus.	_
cephus.	Fabr.	Brassolis sophorae.	Linn.
arneiodes.	Stgr.	Opsiphanes berecynthus.	Cram.
herse.	Cram.	amphirhoe.	Hübn.
arnaea.	Fabr.	cassiopeia.	Stgr.
celmis.	Godt.	Caligo livius.	Stgr.
ziza.	Butl.	telamonius.	Feld.
itonis.	Hew.	Eryphanis polyxena.	Meerb.
myncea.	Cram.	Heliconius melpomene.	Linn.
marmerata.	Butl.	doris var. virides.	Cram.
catherina.	Stgr.	rhea.	Cram.
chloris.	Cram.	emmelina.	Oberth.
libye.	Linn.	sylvana.	Cram.
folgora.	Butl.	burneyi var. catherina.	Stgr.
erichte.	Butl.	ricini.	Linn.
caerulea.	Butl.	methame.	Ericks.
iunia.	Cram.	salvini.	Dewitz.

## xii list of species received from suapure, venezuela.

To other bolered	Mén.	Tibuthia assisanta	C
Eueides hübneri.	Godt-	Libythia carinenta.	Cram. Bsd.
aliphera.	Mén.	Alesa telephae.	Cram.
pavana.	Godt.	Eurybia nicaeus.	Fabr.
vibilia.	Linn.	halimeda.	Hübn.
Colaenis dido.	Fabr.	dardus.	Fabr.
julia.	Linn.		Feld.
phaerusa.		jurtina.	Hew.
Agraulis vanillae.	Linn.	Mesosemia epidius.	
Euptoieta claudia.	Cram.	philocles.	Linn.
Phyciodes ofella.	Hew.	minos.	Hew.
clara.	Bates.	traga.	Hew.
aveyrana.	Bates.	philemon.	Cram.
liriopa.	Cram.	cippus.	Hew.
Coatlantona poecile.	Feld.	melese.	Hew.
Junonia coenia.	Hübn.	menoetes.	Hew.
Anartia jatrophae.	Linn.	antaerice.	Hew.
amalthea.	Linn.	nina.	Herbst.
Catonephele penthia.	Hew.	melpia.	Hew.
numilia.	Cram.	nesti.	Hew.
obrinus.	Linn.	sylvina.	Bates.
acontius.	Linn.	metope.	Hew.
Eunica mygdonia.	Godt.	lagora.	H. S.
Temenis agatha.	Fabr.	Cremna eucharila.	Bates.
Peria lamis.	Cram.	actoris.	Cram.
Dynamine mylitta.	Cram.	heteraea.	Bates.
arene.	Hübn.	Euselasia euodias.	Hew.
anubis.	Hew.	clesa.	Hew.
athemon.	Linn.	euryone.	Hew.
maeon.	DH.	lisias.	Cram.
Ectima iona.	Hew.	arbas.	Cram.
liria.	Fabr.	eusepus.	Hew.
Callizona aceste.	Linn.	hygenius.	Stoll.
Ageronia feronia.	Linn.	orphila.	Cram.
Cystineura cana.	Erichs.	Panara sicora.	Hew.
Pyrrhogyra tipha.	Linn.	phereclus.	Linn.
Megalura peleus.	Sulz.	Lymnas inaria.	DH.
chiron.	Fabr.	melander.	Cram.
orsilochus.	Cram.	thyatira.	Hew.
Adelpha iphicla.	Linn.	Ancyluris aulestes.	Cram.
cytheria.	Linn.	eryxo.	Saund.
plesaure.	Hübn.	Diorhina periander.	Cram.
lerna.	Hew.	licarsis.	Fabr.
	Linn.	Zeonia chorineus.	Cram.
Prepona demophon.	the state of the s	Rusalkia marathon.	Feld.
Paphia morpheus.	Stgr. DH.		Bsd.
philomena.	Fabr.	Isapis taeris.	GS.
eribotes.		Lepricornis bicolor.	Feld.
Siderone isidora.	Cram.	Monethe albertus.	Hew.
strigosus.	Gmel.	Anteros kupris.	
Protogonius quadridentatus.	Butl.	gyas.	Cram.

Emesis ocypore.	Hübn.	Symmachia emesia.	Hew.
lucinda.	Cram.	Theope basilea.	Bates.
fastidiosa.	Mén.	publius.	Feld.
arminius.	Fabr.	isia.	GS.
Mesene phareus.	Cram.	theritas.	Hew.
tyriotes.		hyporanthe.	Bates.
hya.	DH.	excelsa.	Bates.
sagaris.	Cram.	barla.	GS.
Calydna carneia.	Hew.	virgilius.	Cram.
hiria.	Godt.	Pandemos arcas.	Cram.
euthria.	DH.	Aricoris flammula.	Bates.
caieta.	Hew.	lagus.	Cram.
tinea.	Bates.	myrtis.	Westw.
Charis almafreda.	Stgr.	Stalachtis latefasciata.	Stgr.
Bæotis zonata.	Feld.	Pseudolycaena phorcas.	Feld.
barzanes.	Hew.	Lycaena cassius.	Cram.
Lemonias euryleus.	Cram.	monops.	Zeller.
nepia.	DH.	Thecla agra.	Hew.
pseudocrisbus.	Westw.	imperialis.	Cram.
rhodope.	Hew.	acaste.	Pritt.
rhesa.	Hew.	mulucha.	Hew.
parthaon.	Dalm.	phaleros.	Linn.
glauca.	GS.	lebena.	Hew.
sordida.	Butl.	dolylas.	Cram.
thara.	Hew.	torgana.	Hew.
Metacharis lucius.	Fabr.	marsyas.	Linn.
regalis.	Butl.	meton.	Cram.
Lasaia narses.	Stgr.	vibidia.	Hew.
meris.	Cram.	lausus.	Cram.
Echenais penthia.	Cram.	syedra.	Hew.
aristus.	Stoll.	pelion.	Cram.
ristus var. leucophaea.	Hübn.	talayra.	Hew.
leucocyana.	Hübn.	beon.	Cram.
Thisbe irenaea.	Cram.	hemon.	Cram.
labotus.		brescia.	Hew.
molela.	Hew.	hesperitis.	Butl.
Nymphidium lysimon.	Stoll.	aruma.	Hew.
gela.	Hew.	xenata.	Hew.
calyce.	Feld.	eurytulus.	Hübn.
cachrus.	Fabr.	celmus.	Cram.
mantus.	Cram.	telea.	Hew.
	Druce.	trebula.	Hew.
minuta.	Cram.	palegon.	Cram.
phyleus.	Hew.	pisis.	Godm.
arche.	Hew.	tympania.	Hew.
aretos.	Bates.	atneus.	HS.
praeclarum.	Color Barrier		Godt.
baeotia.	Hew.	calus. cinniana.	Hew.
abaris.	Cram.		Hübn.
orestes.	Cram.	mavors.	riuon.

## xiv LIST OF SPECIES RECEIVED FROM SUAPURE, VENEZUELA.

Thecla salyroides.	Hew.	Papilio torquatus.	Cram.
janias.	Cram.	lycophron.	Hübn.
laudonia.	Hew.	pandion.	Feld.
essus.	HS.	androgeos.	Cram.
ledaea.	Hew.	erithaleon.	Bsd.
doryasa.	Hew.	anchisiades.	Esp.
cissura.	Hew.	pausanias.	Linn.
inachus.	Cram.	aeneides.	Esp.
rocena.	Hew.	polydamus.	Linn.
megacles.	Cram.	deileon.	Feld.
atena.	Hew.	aeneas.	Linn.
falerina.	Hew.	sesostris.	Cram.
pelion.	Cram.	telmosis.	Bates.
basalides.	Cram.	anchises.	Linn.
rustan.	Stoll.	ariarathes.	Esp.
comana.	Hew.	chabrias.	Hew.
leucophaeus.	Hübn.	Thymele exadeus.	Cram.
spurina.	Hew.	orion.	Cram.
genena.	Hew.	undulatus.	Hew.
dindymus.	Cram.	virescens.	Mab.
orcidia.	Hew.	chalco.	Hübn.
empusa.	Hew.	catillus.	Cram.
pholeus.	Cram.	dorantes.	Stoll.
ambrax.	DH.	proteus.	Linn.
syncellus.	Cram.	bipunctatus.	Gmel.
mutina.	Hew.	asander.	Hew.
erema.	Hew.	brachius.	Hübn,
Dismorphia kollari.	Luc.	decussata.	Mén.
eumelia.	Cram.	auginulus.	108 (108 4 E)
mercenaria.	Feld.	auginus.	Hew.
Leucidia brephos.	Hübn.	Thracides antoninus.	Fabr.
Eurema elathea.	Cram.	Telegonus parmenides.	Cram.
nise.	Cram.	ramusis.	Cram.
ingrata.	Feld.	pervivax.	Hübn.
agave.	Cram.	praestes.	Hew.
dissa.	Mosch.	caepio.	HS.
Pieris monuste.	Linn.	otriades.	Hew.
Daptoneura ilaire.	Godt.	talus.	Cram.
lycimnia.	Cram.	anaphus.	Cram.
Perrhybris demophile.	Linn.	fulgerator.	Walch.
calydonia.	Bsd.	Nascus vulpecula.	Mab.
pyrrha.	Fabr.	Spathilepia clonius.	Cram.
Catopsilia statira.	Cram.	tomyris.	Staud.
philea.	Linn.	Cobalus argus.	Mont.
trite.	Linn.	Entheus neleus.	Linn.
eubule.	Linn.	vitreus.	Cram.
menippe.	Hübn.	peleus.	Linn.
Papilio lycidas.	Cram.	matho.	GS.
cresphontes.	Cram.	gentius.	Cram.
		8	

Fabr.

Edw.

simplicius.

Vehilius stictomenes.

Butl.

nero.

ocola.

## LIST OF NEW SPECIES FROM SUAPURE, VENEZUELA.

These species, which I believe are new to science, have been described by me in various publications. Plates and descriptions will be found in the following pages.

	Eresia.	Brooksii.	A. G. Weeks, Jr.
Klagesii.	A. G. Weeks, Jr.	Winslowi.	A. G. Weeks, Jr.
	Ithomia.	Verdanta.	A. G. Weeks, Jr.
Hamlini.	A. G. Weeks, Jr.	Mengeli.	A. G. Weeks, Jr.
Drogheda.	A. G. Weeks, Jr.	Chinoba.	A. G. Weeks, Jr.
THE REAL PROPERTY.	Euselasia.	Bryanti.	A. G. Weeks, Jr.
Tysoni.	A. G. Weeks. Jr.	Nym	phidium.
Howlandi.	A. G. Weeks, Jr.	Blakei.	A. G. Weeks. Jr.
	Charis.	Quinoni.	A. G. Weeks, Jr.
Suapure.	A. G. Weeks, Jr.	Th	ymele.
	Mesene.	Pervivax var. ale	xanderi.
Rochesteri.	A. G. Weeks, Jr.		A. G. Weeks, Jr.
	Carystus.	Nis	soniades.
Richardi.	A. G. Weeks, Jr.	Plummertini.	A. G. Weeks, Jr.
Benchos.	A. G. Weeks, Jr.	Th	anaos.
Ambrosei.	A. G. Weeks, Jr.	Parkeri.	A. G. Weeks, Jr.
	Methonella.	Er	ycides.
Carveri.	A. G. Weeks, Jr.	Nakawara.	A. G. Weeks, Jr.
	Thecla.	A	delpa.
Maidie.	A. G. Weeks, Jr.	Oronoco.	A. G. Weeks, Jr.
Carteri.	A. G. Weeks, Jr.		Ethilla.
Hosmeri.	A. G. Weeks, Jr.	Buffumi.	A. G. Weeks, Jr.
Adelpha.	A. G. Weeks, Jr.	Aci	hlyodes.
	Plestia.	Melcheri.	A. G. Weeks, Jr.
Kikkawai.	A. G. Weeks, Jr.	Call	imormus.
	Pythonides.	Elides.	A. G. Weeks, Jr.
Hoyti.	A. G. Weeks, Jr.	At	rytone.
	Pamphila.	Chingachgook.	A. G. Weeks, Jr.
Bobae.	A. G. Weeks, Ir.		



## ILLUSTRATIONS OF HITHERTO UNFIGURED LEPIDOPTERA.

BY A. G. WEEKS, JR.

### Eresia klagesii A. G. Weeks, Jr.1

(Plate I.)

Habitat: Suapure, Venezuela. Expanse: 2.10 inches.

Head above black, with a white dot above each eye and one betwixt the bases of the antennæ. Antennæ black. Club black above, beneath brown, with tawny tip. Thorax and abdomen black or very dark brown above, beneath tawny brown.

Upper side of fore wing tawny brown, with black markings. Costa black. Half way up the costa a black band runs downward, across the end of the discoidal space to the first submedian nervule, where it suffuses toward hind margin. Beyond this, on apical side, is an area of ground color of the same width. The apical area, representing one-fourth of the total wing area, is black, with a tawny brown dash in its central portion. In some specimens, owing to lack of any suffusion, this dash may be called a well-defined spot. The hind margin is bordered with black from apex down to the second submedian nervule, and in some specimens this extends to lower angle. The inner marginal area is dashed with black. The median nervure is heavily black from the base up to the second submedian nervule.

Upper side of lower wing tawny brown, with black markings. A black line one-sixteenth of an inch wide extends from the base of the wing along the costa nearly to the upper angle. The hind margin is slightly dentated or wavy, and has a black border one-sixteenth of an inch wide, broadening somewhat toward anal angle. From the inner margin near the base of the wing a line of interspacial black spots extends across the wing, curving upward to the upper angle. These are, in some specimens, quite indistinct, owing to being dusted with tawny scales.

Under side of fore wing is governed by the markings of the upper surface. The black portions are not so dense and suffuse into the ground color. The band of ground color running from costa to hind margin is more yellow, and the apical area is tawny brown. At the apex is a patch of dull yellow, crossed

<sup>&</sup>lt;sup>1</sup> Entomological News, Vol. XVII, No. 6, p. 195, June, 1906.

by a dark line which extends down to the lower angle one-sixteenth of an inch within the hind margin.

On the under side of the hind wing, the black line noted on the upper surface is repeated. Below this, the area to the row of black spots is dull yellow. Below this spot the area to the black marginal border is light tawny. In the black hind marginal border is a wavy line extending from the anal angle through four interspaces.

Variations. — The chief variations are due to the suffusing of the ground color on the black portion, or vice versa. Some specimens are more or less suffused, thus having the markings indistinctly outlined. I have one specimen in which the row of black spots on lower wing is totally wanting on the upper surface, although it is slightly in evidence on the under surface. This species could not be found in the large collections of this country, nor the British Museum, nor has any description by a previous author been brought to light.

## Ithomia hamlini A. G. Weeks, Jr.1

(Plate II, Two Figures.)

Habitat: Suapure, Venezuela. Expanse: 2 inches.

Head black, with a yellow dot behind the eyes, also one between the antennæ. Eyes surrounded by a yellow thread. Antennæ dark brown, merging to light brown towards club. Club black, with brown tip. Thorax above black, with a yellow collar and a yellow spot at junction of each costa; beneath, lemon yellow. Abdomen above black; beneath, lemon yellow. Legs, black.

Upper side of fore wing mostly transparent, marked with brownish black and yellowish transparent areas. Costa black, edged with brown along discoidal space. Discoidal space transparent, with a yellowish tinge. From the base of wing a dark club-shaped dash extends upward to centre of discoidal space. From the centre of costa a broad brownish black band extends downwards across the end of discoidal space, terminating at hind margin just above the lower angle; the nervures and nervules in this band are black. Outside of this band is a broad transparent area, heavily dusted with lemon-yellow scales near costa. The apical area and hind marginal area are brownish black, with a slight suggestion of lighter spots in the interspaces near margin. The median nervure is brown. The inner marginal area below the median nervure is brown suffusing to dense black toward inner margin.

The upper side of hind wing has the same colors. The hind margin is bordered with a sixteenth of an inch brownish black border, bearing suggestions

<sup>&</sup>lt;sup>1</sup> Entomological News, Vol. XVII, No. 6, p. 196, June, 1906.





J Henry Blake, ad nat.

B. Mersel, lith Boston

of lighter spots in interspaces. Inside of this, toward the base of the wing, is a band of brown extending from the upper angle downward, and swinging across the wing to the anal angle parallel to hind margin. Still nearer the base, bordering this brown band, a darker band runs across the wing horizontally, turning upward to the costa well outside the discoidal space. The discoidal space and the area surrounding it is transparent, slightly dusted with brown scales. The nervures and nervules are brown.

The under side of both wings is the same as upper surface, except that the interspacial light spots along the hind margins are more distinct, being very prominent on the lower wing.

Variations. — The sixty specimens in my collection show no variation in size. The markings are identical in shape and location, but show considerable variation in their density and tendency to suffusion. The typical specimen above described is a fair average. Two figures are given to show variation.

# Thecla maidie A. G. Weeks, Jr.1

(Plate III, Figure 1.)

Habitat: Suapure, Venezuela. Expanse: 1.10 inches.

Female. — Head, palpi, thorax, and abdomen above, dark mouse color; beneath, light mouse color. Antennæ black, with white annulation at base of each joint. Club black, with tawny tip. Legs light mouse color, with white annulations.

Upper side of fore wing dark mouse color. The basal area slightly blue.

Upper side of hind wing dark mouse color. Basal area light blue, dusted with mouse-colored scales, shading off to mouse color toward upper angle and hind margin. From the lower submedian nervule extends a delicate tail one-eighth of an inch long, tipped with white, and above it a similar but shorter tail extending from the submedian nervule. From anal angle a delicate white thread, following contour of hind margin, extends toward upper angle, disappearing almost midway. At anal angle is a tawny dot. Inner margin light gray.

Under side of fore wing light mouse color. A conspicuous dark line bordered with a white thread on outer side extends downwards from near costa to submedian nervule. The hind marginal area, for one-sixteenth of an inch inward, is somewhat lighter than ground color, and has suggestion of darker half circles in the interspaces. The inner margin is lighter than ground color, gradually shading into it.

<sup>&</sup>lt;sup>1</sup> Entomological News, Vol. XVII, No. 6, p. 197, June, 1906.

Under side of hind wing light mouse color. A dark line, dusted with tawny and bordered by a white thread on its outer side, extends from centre of costs to centre of second submedian nervule, then turning upwards to centre of inner margin. This line is jagged, with angles in each interspace, and forms a continuation of the line on the fore wing, but more fully developed. There is a tawny spot at anal angle, blackish at angle. In interspaces, between the two tails, is another spot of lighter shade. The white marginal thread of the upper surface is repeated. The light hind marginal area of under side of fore wing is continued on hind wing.

The hind margins have a slight fringe of the ground color.

This species could not be found in the larger collections in this country, nor in the collection of Druce, the British Museum, etc. It resembles *T. cleon* Fabr.

# Thecla carteri A. G. Weeks, Jr.1

(Plate III, Figure 2.)

Habitat: Suapure, Venezuela. Expanse: .80 inch.

Head, thorax, and abdomen nearly black above, with a few light blue hairs; beneath, gray. Palpi white. Antennæ black, with indistinct white annulations at base of each joint. Club above, black; below, tawny. Legs gray.

Upper side of fore wing nearly black. The space within a line drawn from a point on inner margin just inside lower angle up to centre of median nervure and thence to base is light blue.

Upper side of hind wing light blue at base, nearly white as it approaches costa and hind margin. There is a blackish border along costa, extending half way down hind margin. At end of submedian nervule is a delicate thread-like tail, one-eighth of an inch long, tipped with white. Hind margin has a delicate gray fringe. The edge of hind margin has a fine whitish line, inside of which is a black thread. The submedian interspaces show the dark interspacial markings of the under side. Inner margin white.

Under side of fore wing grayish white, dusted with brown towards base. One-sixteenth of an inch within hind margin is a wavy line of blackish brown extending down to inner margin. The space between this and the margin is light gray, with prominent interspacial triangular spots of blackish brown, one-sixteenth of an inch within this line is another line extending from costa down to second submedian nervule, the intermediate space being nearly white. There is another similar line running across the end of the discoidal space only. From this line the dusting of darker color increases toward the base.

Under side of hind wing the same ground color. At centre of costa is a lu-

<sup>1</sup> Entomological News, Vol. XVII, No. 6, p. 197, June, 1906.







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B. Meisel, lith Bosten

nule, brown on its outer edge, white within with a black spot at its centre. From upper angle a brown line extends straight across the wing to the centre of the inner margin. Outside of this is a space one-sixteenth of an inch wide, of light gray. Outside of this the area to hind margin is dark brown, broken by a series of interspacial lighter brown semicircles near the margin, the interior portion of these semicircles being nearly black.

The hind margins have a thread of white.

This species is nearly identical with T. argiva Hew., which has no It is also near T. tadita Hew., which is in the Hewitson tails. collection.

#### Thecla hosmeri A. G. Weeks, Jr. 1.

(Plate III, Figure 3.)

Habitat: Suapure, Venezuela. Expanse: .95 inch.

Head, thorax, and abdomen above, black; below, gray. Palpi gray. Antennæ black, with microscopic white annulations at base of each joint. Club black.

Upper side of fore-wing black, with slaty lustre.

Upper side of hind wing black, with slaty lustre. At end of submedian nervule is a short thread-like tail. Below this, at end of second submedian nervule, is another longer tail, both black, with a white tip.

Under side of fore wing brownish slate color. From a point on costa, twothirds distance to apex, runs a brick-red line, bordered on its outer edge with a white thread down to submedian nervule.

Under side of hind wing brownish slate color. The brick-red line of fore wing is continued running downwards parallel to hind margin and meeting inner margin just above the anal angle. In the four lower interspaces this line becomes jagged, forming a series of semicircles. Outside of the first two of these semicircles are patches of brick red, the lower one having a black point on its lower edge. At the angle is another brick-red patch or spot, smaller than the others, with a black point on its lower edge. Just within the hind margin, running from anal angle to the median nervure, is a white throad.

Wings have a slight fringe of the ground color.

This species is closely allied to T. pisis Godm. and to T. gargophia Herr. Described from six specimens in my collection.

<sup>1</sup> Entomological News, Vol. XVII, No. 6, p. 198, June, 1906.

#### Euselasia tysoni A. G. Weeks, Jr.1

(Plate IV, Figure 1.)

Habitat: Suapure, Venezuela. Expanse: 1.00 inch.

Head, thorax, and abdomen above, mouse color; below, gray. Palpi white. Antennæ mouse color, with minute white annulations at base of each joint. Club black, with whitish suffusion at base. Legs light tawny brown.

Upper side of fore wing mouse color.

Upper side of hind wing mouse color. Hind margin strongly dentated. At end of submedian nervule is a slight tawny spot.

Under side of fore wing light tawny brown. From a point just beyond centre of costa runs a tawny line across end of discoidal space, down to lower submedian nervule. Hind margin bordered with tawny, with a suggestion of a white thread. From a point on inner margin one-sixteenth of an inch from lower angle runs a black thread or dash upwards to submedian nervule. The space between this and hind margin is whitish near the angle.

Under side of hind wing light tawny brown. Hind margin bordered with tawny, with a white thread in interspaces. Within this tawny border, near base, is a series of silvery-white elongated spots forming a prominent marginal border. The inner side of these spots is lined with black. The tawny line near centre of fore wing is continued, being parallel with hind margin and curving upward to centre of inner margin.

There is one specimen of this in the Druce collection, but unnamed.

#### Charis suapure A. G. Weeks, Jr.2

(Plate IV, Figure 2.)

Habitat: Suapure, Venezuela. Expanse: .95 inch.

'Kead, antenne, ftrorar, and abdomen above blackish brown; beneath, somewhat lighter. Legs the same.

Upper side of fore wing dark blackish brown. In discoidal space, near base, is a blackish spot, repeated in space below. Beyond this is another similar spot in the discoidal space, repeated and somewhat larger in submedian space below. Beyond this is a third spot in the discoidal space, but this last is not repeated in space below. Outside of this spot is a broad blackish line of connecting interspacial spots from costa across the end of discoidal space, turning at median

<sup>1</sup> Entomological News, Vol. XVII, No. 6, p. 199, June, 1906.

<sup>&</sup>lt;sup>2</sup> Entomological News, Vol. XVII, No. 6, p. 199, June, 1906.





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J. Henry Blake, ad nat

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nervure and running parallel to hind margin down to inner margin, near the centre of the wing area. Beyond this is an area of the ground color and then a prominent orange line or band running from a point just above the centre of costa towards hind margin, turning at median nervure and running down to inner margin one-sixteenth of an inch in from hind margin, forming nearly a semicircle. This line, the prominent feature of the markings, is broader at costa and terminates in a point at inner margin. The apical area, outside of this and the hind marginal area, is the same color as the discoidal spot, blackish.

Upper side of hind wing is the same, except that the spots suffuse, nearly forming a band. The orange band of fore wing is continued, but narrower, extending from upper angle to anal angle parallel to hind margin. The inner margin is of the ground color.

The wings have a slight fringe of the ground color.

The markings of the under side of both wings are similar to those of the upper surface, although slightly lighter.

This species resembles C. cacias Hew.

# Carystus richardi A. G. Weeks, Jr.1

(Plate IV, Figure 3.)

Habitat: Suapure, Venezuela. Expanse: 1.30 inches.

Head and collar bronzy brown. Antennæ black. Club black above, brown beneath. Thorax above, dark brown, with some dark gray hairs; beneath, white. Abdomen above, dark brown, the segments edged with white; beneath, white. Legs black above, brown beneath.

Upper side of fore wing dark brown. Below the median nervure and bordering on it is a prominent semitransparent white spot, nearly square. Above this, and nearly joining it, is a small white dot in the discoidal space. At the bases of the two interspaces above this large spot are two smaller white spots in a line drawn towards the apex. Below the costa, two-thirds the distance to apex, are two small white spots, the upper one merely a dot. These make a total of six spots.

Upper side of hind wing dark brown. A dash of white, or rather a series of interspacial white marks, extends across the centre only of the wing in a line drawn from the upper angle to a point near the base on inner margin. This white area represents a small portion only of the total wing area.

Hind margins have a slight gray fringe.

Under side of fore wing the same as upper surface, except that below the large white spot is a space of similar size, heavily dusted with white scales,

<sup>&</sup>lt;sup>1</sup> Entomological News, Vol. XVII, No. 6, p. 199, June, 1906.

suffusing towards the hind margin. A similar, though less prominent, dusting of lighter scales appears outside the two subcostal spots.

The lower half of under side of hind wing is dark brown. Above a line drawn from upper angle across the lower edge of the white spots and ending near the base of the wing the area is a creamy white, excepting the costal area, which is brown. The lower edge of this costal area is separated from the creamy white by a line drawn from base to upper angle, no suffusion whatever being apparent. In this creamy white area between the semitransparent spots and the inner margin is a dash of brown.

Described from five specimens in my collection taken in January, 1900. The white markings show no variation. This species resembles C. lafrenayi Latr., but the white markings on hind wing are not so large, and in lafrenayi the direction is from upper angle downwards parallel to hind margin, not straight across the wing. The under side of hind wing varies in the location and extent of white markings.

# Methonella carveri A. G. Weeks, Jr. 1

(Plate V.)

Habitat: Suapure, Venezuela. Expanse: 1.50 inches.

Male. — Head black. Antennæ black. Club black, with brown tip. Thorax above black, with yellow hairs at base of wings; beneath, orange. Abdomen above black; beneath, orange. Legs black.

Upper side of fore wing orange, black, and yellow. Costa black. The basal area within a line drawn from near centre of costa diagonally across the discoidal space to a point one-quarter of an inch within the margin, thence downwards parallel to hind margin to inner margin, is orange. The apical and hind marginal areas, outside this line, are black. In the centre of the black apical area, running from costa diagonally across it nearly to hind margin, is a yellow band. Below the end of this, in the margin area, is a yellow spot, with a suggestion of a smaller one below it. Inner margin orange.

The upper side of hind wing is of the same orange. Costa orange. From the base a black dash extends upwards a quarter inch along costa. The hind margin has a broad black border, dentated on its basal side. Within this border are a series of interspacial yellow spots. Inner margin orange.

Under side of both wings the same as upper surface, except that the coloring is not so brilliant.

Female. — Upper surface of both wings the same as male, excepting a fuller

<sup>1</sup> Entomological News, Vol. XVII, No. 6, p. 200, June, 1906.





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development of the markings. The yellow band of fore wing extends or curves downwards to near inner margin, forming almost a semicircle. There is also a white spot on margin at apex. The yellow spots of marginal area of hind wing are much more prominent, and a white dot appears on the margin at the end of each nervule.

Under surface of both wings the same as upper surface, except less brilliant.

Taken in April, 1899. Not in British Museum or other large collections.

#### Plestia kikkawaii A. G. Weeks, Jr.1

(Plate VI, Figure 1.)

Habitat: Suapure, Venezuela. Expanse: 1.25 inches.

Head, thorax, and abdomen above dark brown, with a few grayish hairs. Circles of grayish hairs at base of each segment of abdomen. There is a white dot at base of each antenna. Antennæ dark brown, tip beneath gray. Legs nearly white.

Upper side of fore wing dark brown, with nine white spots or markings, giving the wing almost a mottled appearance. The largest of these is at centre of discoidal space, strongly concaved on marginal side. Below this, in the next two lower interspaces, are two white spots. This row of spots is edged with very dark brown on basal side. Near the end of discoidal space, near costa, is a small white spot. There are two large white spots or markings in the first and second submedian interspaces, both of them more or less concaved on marginal side. There are three apical white dots. Below them, near lower angle, is a well-defined marking of very dark brown.

Upper side of hind wing is dark brown. Costa and portion of discoidal space close to base crossed by a heavy white band. Below this, near centre of wing, is a prominent white spot, with a smaller one adjoining it. A band of very light brown extends on each side of these spots towards upper angle and inner margin respectively, giving the appearance of a series of brownish spots. The hind margin, which is somewhat dentated and enlarged at anal angle, has a very irregular and jagged line of light brown, forming a series of interspacial light brown spots, extending from anal angle to upper angle.

Under side of fore wing brown, somewhat lighter than upper surface, and with less lustre. The white spots are repeated, showing more transparency. The lower submedian interspace and the inner marginal area are lighter than the ground color.

Under side of hind wing brown, a shade darker than fore wing. The white

<sup>1</sup> Canadian Entomologist, Vol. XXXVIII, No. 5, p. 177, May, 1906.

and brown markings of upper surface are repeated, but are all white. The hind margin has a slight whitish line.

Variations. — In some specimens the light brown marginal border or series of interspacial spots noted on upper surface of hind wing is continued upwards across marginal area of fore wing, but it is so variable in its definiteness that it may be considered a distinct band in some specimens, or a mere suffusion in others. The small discoidal spot of fore wing is often joined to the larger one in the discoidal space.

Taken in January, 1900.

# Pythonides hoyti A. G. Weeks, Jr.1

(Plate VI, Figure 2.)

Habitat: Suapure, Venezuela. Expanse: 1.80 inches.

Head, thorax, and abdomen above, dark brown, with golden brown hairs; beneath, light brown. Antennæ dark brown.

Upper side of fore wing brown. Across the discoidal space is a semitransparent spot of peculiar shape, straight on its basal side, but forked on its marginal side, forming a figure []. In the first submedian interspace is another similar spot somewhat nearer the hind margin. Above the upper point of this, in the interspace next above it, is a square spot. In the apical area are three subcostal elongated semitransparent spots, the uppermost and lowest ones being a little nearer hind margin than the central one. Near base, about one-third distance to apex is an indistinct band of dark brown running from costa to inner margin. Another band runs across the two lower interspaces between the first band and hind margin. Below the subcostal spots is a dusting of dark brown. This, with the band last mentioned, suggests a band across the wing broken by the white spots and ground color at central portion of the wing, this partially developed band being continued on hind wing.

Upper side of hind wing brown, matching fore wing. The wing is crossed from costa to inner margin, by two darker bands, these being continuations of the bands of the fore wing. The basal and anal areas of the wing are covered with brown hairs, causing an apparent suffusion of the bands.

Both wings have a fringe of the ground color.

Under side of fore wing very light brown, excepting the costal and apical areas, which are darker. The spots of upper surface are repeated, also the dark bands.

<sup>1</sup> Entomological News, Vol. XVII, No. 6, p. 202, June, 1906.









J. Henry Blake, ad nat.

B. Meisel, lith Boston.

Under side of hind wing very light brown, the hind marginal and basal areas being somewhat darker. The basal area is dusted with light brown scales. The dark bands of upper surface are repeated.

The semitransparent spots closely resemble those on P. lucullea Hew.

Taken in the latter part of January, 1900.

#### Pamphila bobae A. G. Weeks, Jr.1

(Plate VII, Figure 1.)

Habitat: Suapure, Venezuela. Expanse: 1.10 inches.

Head, palpi, antennæ, thorax, and abdomen above, very dark brown, nearly black; beneath, somewhat lighter.

Upper side of fore wing dark velvety brown, with no markings, except very indistinct bands of a darker shade, noticeable only on close inspection. The first crosses basal area, the second the end of discoidal space, the third the hind marginal area. In the interspaces along hind margin is a series of similarly indistinct dark markings.

Upper side of hind wing very dark velvety brown, costal area somewhat lighter.

Under side of fore wing lighter than the upper surface, the dark markings being slightly more noticeable. The lower submedian area near base and entire inner marginal area are very light.

Under side of hind wing is the same as fore wing, the dark markings of fore wing being repeated. Owing to the very dark shade, these markings scarcely show on the upper surface.

Taken in January, 1900.

### Pamphila brooksii A. G. Weeks, Jr.<sup>2</sup>

(Plate VII, Figure 2.)

Habitat: Suapure, Venezuela. Expanse: 2 inches.

Head and palpi tawny brown. Thorax above, dark brown, with tawny brown shoulders; beneath, tawny brown. Abdomen above, dark brown; beneath, white. Legs tawny brown. Antennæ dark brown, whitish at base of club. Club above dark brown; beneath, dark brown, with whitish tip.

<sup>1</sup> Entomological News, Vol. XVII, No. 6, p. 203, June, 1906.

<sup>&</sup>lt;sup>2</sup> Entomological News, Vol. XVII, No. 6, p. 204, June, 1906.

Upper side of fore wing dark brown. Costa tawny brown half way to apex. Basal portion of wing slightly dusted with tawny brown. Across the centre of discoidal space there is a prominent white spot. Below this, in second submedian interspace, is another spot, but nearer the hind margin; still nearer the hind margin, in interspace above, is a third white spot. These three white spots are of nearly equal size. Near the apex, extending from costa downwards are three small white spots, and a fourth one still farther down. Hind margin has a slight tawny brown fringe.

Upper side of hind wing dark brown; costa somewhat lighter. Hind margin

has a slight tawny brown fringe.

Under side of fore wing nearly black, except the costal and apical areas, which are a rich tawny brown. The white spots of the upper surface are repeated. In the interspaces above the lower of the four apical white spots are two black specks, one above the other, showing a tendency to transparency at their centres. In the lowest submedian interspace, at its centre, there is a dusting of light scales. Hind margin is edged with a fine black thread.

Under side of hind wing a rich tawny brown, darker in marginal and basal areas. In the first and third submedian interspaces is a white dot just below

the end of the discoidal space.

Taken in the latter part of July, 1899.

#### Nymphidium blakei A. G. Weeks, Jr.1

(Plate VIII, Figure 1.)

Habitat: Suapure, Venezuela. Expanse: 1.00 inch.

Head, thorax, and abdomen above black; beneath, white. Antennæ black, with white annulations at base of each joint. Club black above, white beneath.

Legs white.

Fore wing above white, excepting costa, apex, and hind margin. Costa black. Apical area black. Hind margin black, with a white thread just within the margin. Within this thread is a series of interspacial semicircles of white, which, with the white marginal thread, gives the appearance of a series of interspacial white circles extending from apex to lower angle. At the extreme edge of the hind margin, just below the apex, is a white dot, and another opposite the end of the first submedian interspace.

Upper side of hind wing the same as fore wing, except that the costa is white, and the two hind marginal spots are absent.

The black hind marginal border of both wings and the black costal border of fore wing are one-sixteenth inch wide.

Under side of fore wing is the same as upper surface, except that the two

<sup>1</sup> Canadian Entomologist, Vol. XXXVIII, No. 3, p. 78, March, 1906.

hind marginal white spots are more prominent, and there is a third one at the end of the lowest submedian interspace.

The under side of hind wing is the same as upper surface, except that the three hind marginal spots of the under side of fore wing are repeated.

This species is not in the larger collections of this country, nor in the British Museum.

Taken in September, 1899.

#### Mesene rochesteri A. G. Weeks, Jr.1

(Plate VIII, Figure 2.)

Habitat: Suapure, Venezuela. Expanse: .90 inch.

Head black. Antennæ black, with minute white annulations at base of each joint. Club black with orange tip. Thorax black above, with orange hairs, beneath grayish. Abdomen orange above, beneath grayish. Legs orange above, beneath grayish.

Upper side of fore wing orange. Hind margin, apical area, and costa black. This black border is nearly one quarter inch broad, covering more than half the wing area.

Upper side of hind wing orange of same shade as fore wing. The hind margin has a broad black border the same width as on fore wing. Costa and inner margin are orange.

Under side of fore wing the same as upper surface.

Under side of hind wing the same as upper surface, except that the black border contains two white spots, one near the anal angle, the other midway to upper angle.

Variations. — In the ten specimens in my collection there is scarcely any variation in the width or density of the black border. In some specimens the fore wing has a white spot at the inner edge of the hind marginal border, midway from apex to lower angle. The two white spots on under side of hind wing sometimes show on the upper surface. There is also a third spot between them. It is quite probable that in a large series of specimens these white spots would vary in number and development.

It bears a close resemblance to *M. celetes*, Bates, the black border being, however, much broader.

<sup>1</sup> Canadian Entomologist, Vol. XXXVIII, No. 3, p. 77, March, 1906.

#### Euselasia howlandi A. G. Weeks, Jr.1

(Plate VIII, Figure 3.)

Habitat: Suapure, Venezuela. Expanse: 1.12 inches.

Head and abdomen mouse color. Palpi white. Thorax mouse color above, with a few lighter hairs; beneath, gray. Antennæ mouse color, with minute white annulations at base of each joint. Club mouse color, tipped with brown. Legs tawny.

Upper side of fore wing mouse color, excepting an area within a line drawn from base along median nervure to a point one-quarter inch from hind margin, thence downward to inner margin, parallel to hind margin. This area, covering one-third of the total wing area, is light gray, dusted with darker scales near the base. The hind margin has a slight mouse-colored fringe, becoming white near lower angle.

Upper side of hind wing dark mouse color, the central area very slightly lighter. Hind margin dentated, and with a white fringe. Along the edge is a dark line slightly touched with tawny on basal side, lower margin grayish white.

Under side of fore wing very light gray, with tawny markings. A prominent tawny line runs from costa downwards across the centre of the discoidal space to the junction of the lower submedian nervule, somewhat concaved, thence straight to inner margin. Beyond this line, nearer apex, is a similar line running from costa downwards across the end of the discoidal space nearly to inner margin. A third line runs from costa to inner margin one-sixteenth inch from hind margin. The interspaces between this line and the line next nearer the base are heavily dashed with tawny, from a line of spots from the costa downward. The central spot of this series, in interspace above the second submedian nervule, is nearly absent. The margin is lined with tawny, the space to the first marginal line being somewhat darker, and dashed with white scales in the interspaces.

Under side of hind wing very nearly duplicates the under side of fore wing in general appearance. The tawny line first above noted in fore wing is continued, starting on the costa near its base, and running downwards across the centre of the discoidal space, and then disappearing. The next tawny line runs downwards from the costa across the end of the discoidal space to the first submedian nervule, where it turns at a right angle and runs to the inner margin. This line is somewhat dentated in the interspaces. The area outside of this, to the marginal line, is very light gray, with a series of interspacial tawny dustings, a continuance of the same in fore wing. The hind margin has a white fringe, within which is a tawny line, and within that a fine, well-developed black thread following the dentated contour of the margin.

<sup>&</sup>lt;sup>1</sup> Canadian Entomologist, Vol. XXXVIII, No. 3, p. 79, March, 1906.







J Henry Blake, ad nat.

B. Meisel, hth Boston.



J Henry Blake, ad nat.

B. Meisel, lith Baston.

# Thymele pervivax Hubn., var. alexanderi A. G. Weeks, Jr. 1

(Plate IX.)

Habitat: Suapure, Venezuela. Expanse: 1.75 inches.

Head and thorax above, brilliant green; below, brilliant green with some brown and white hairs. Abdomen above, dark brown; below, light brown. Antennæ black. Legs above, dark brown; below, lighter with greenish hairs near body.

Upper side of fore wing, a rich dark brown. The basal area is heavily dusted with brilliant green scales. Fringe of hind margin becomes whitish towards lower angle.

Upper side of hind wing the same.

Under side of fore wing dark brown with golden lustre. Basal area dusted with lustrous green scales as on upper surface. Inner marginal area very light brown.

Under side of hind wing the same as upper surface.

Taken in January, 1900.

This is practically identical with T. pervivax, Hubn., excepting that pervivax has a very prominent semitransparent band crossing the fore wing. The specimens in hand show no indication of such a band except in one instance, where I noticed a slight dot. It would be unsafe to create a new species, and the advisability of naming a variety is doubtful. There is a specimen in the Godman collection unnamed.

#### Pamphila winslowi A. G. Weeks, Jr.2

(Plate X, Figure 1.)

Habitat: Suapure, Venezuela. Expanse: 1.15 inches.

Head, thorax, and abdomen above, tawny with a greenish tinge; below, nearly white. Antennæ black. Club black above, below bright tawny with brown towards tip. Legs bright tawny.

Upper side of fore wing dark brown. The entire basal area is bright tawny, extending along costa to near apex, and also along inner margin to near hind margin. The brown ground color juts inwards towards base at end of discoidal space and also in the two lower submedian interspaces. A black dash crosses the wing from end of discoidal space downwards to lower submedian nervule.

<sup>1</sup> Psyche, Vol. XIII, Nos. 2-3, p. 71, April-June, 1906.

<sup>&</sup>lt;sup>2</sup> Psyche, Vol. XIII, Nos. 2-3, p. 69, April-June, 1906.

At central point of the wing the bright tawny is golden color. The coloring is the same as in many species of pamphila, such as *P. mystic* Scudd., *P. brettus* Boisd., *P. sylvanus* Esp., and many others.

Upper side of hind wing dark brown. Discoidal space bright tawny, suffusing into interspace towards hind margin and also into the next upper and next lower interspaces. The entire inner marginal area is dusted with golden scales and hairs.

The hind margins of both wings have a dark thread and a fringe of tawny, darker on fore wing than on hind wing.

Under side of fore wing bright tawny. The tawny markings of upper surface show in a somewhat lighter shade. The basal area below costa is nearly black and below it the inner marginal area is mouse color. Hind margin edged with a dark brown thread. Fringe slightly darker than ground color.

Under side of hind wing very bright tawny approaching a golden yellow. The tawny markings of upper surface are barely noticeable. Towards anal angle the ground color darkens in a slight degree. Hind margin edged with a dark brown thread. Fringe slightly darker than ground color.

Taken in November and December, 1899.

# Pamphila verdanta A. G. Weeks, Jr. 1

(Plate X, Figure 2.)

Habitat: Suapure, Venezuela. Expanse: 1.15 inches.

Head, thorax, and abdomen above, dark brown with hairs of a greenish tinge; below, greenish with white hairs. Antennæ black. Club above black, below tawny. Legs greenish at base, tawny towards tip.

Upper side of fore wing dark brown. Immediate basal area dark tawny, the nervures and nervules showing distinctly black. Costa dark tawny nearly to apex. In apical area are three subcostal tawny spots, and below these two more somewhat nearer hind margin. Below these last two is a series of three large interspacial tawny spots extending downwards towards centre of inner margin, but stopping at lower submedian nervule. The lowest of these three spots is well concaved on hind marginal side. Hind marginal fringe tawny.

Upper side of hind wing dark brown. Across the centre of the wing is a broad band of tawny, starting near upper angle and stopping near central portion of inner margin. The basal area has some tawny hairs. Hind marginal fringe tawny.

The costal area of lower side of fore wing is a tawny green, also the apical area, extending downwards to a point at lower angle. The inner marginal area up to discoidal space is nearly black. The band of lighter spots of upper sur-

<sup>&</sup>lt;sup>2</sup> Psyche, Vol. XIII, Nos. 2-3, p. 67, April-June, 1906.





face is distinctly repeated with slight dashes of similar shade in hind marginal interspaces.

Under side of hind wing tawny green. Close to juncture with thorax is a white spot. The band of upper surface is repeated but is pure white and extends nearer or fully to the costa just above angle. Hind marginal interspaces dashed with tawny suffusing upwards somewhat near anal angle. The anal angle is dusted with dark brown scales.

Taken in March, 1900.

# Pamphila mengeli A. G. Weeks, Jr.1

(Plate XI, Figure 1.)

Habitat: Suapure, Venezuela. Expanse: 1.10 inches.

Head, thorax, abdomen, and antennæ dark brown above, nearly white beneath. Club above dark brown, beneath, dark brown tipped with brick color. Legs nearly white.

Upper side of fore wing dark brown. Basal area slightly dusted with golden scales. Near the apex are two subcostal white dots, very minute. Below these in first submedian interspace near end of discoidal space is a larger white dot, and below it in next lower interspace are two white dots in a line parallel to hind margin. A black dash extends downwards towards centre of inner margin from the end of discoidal space. Marginal fringe very light brown.

Upper side of hind wing dark brown. A series of four indistinct interspacial white spots extend from near upper angle across the wing towards anal angle. Marginal fringe very light brown.

Under side of fore wing light brown, the lower half, especially towards the base, dark brown. The white dots of upper surface are repeated, the two lower ones more prominent, and in interspace below these is a dusting of light scales. Marginal fringe of ground color. Tips of nervules and nervures touched with black. Nervures and nervules of lighter color than ground color.

Under side of hind wing light brown. The nervures and nervules distinctly lighter. The light spots of upper surface are joined, forming a line rather than a series of spots and extending upwards nearer to costa. Within this line and at centre of wing area is a light dot of similar color. The marginal fringe and border is the same as on fore wing.

This species was found in the Godman collection unnamed, but was not in the British Museum or other large collections.

Taken in November, 1899.

<sup>1</sup> Psyche, Vol. XIII, Nos. 2-3, p. 68, April-June, 1906.

# Carystus ambrosei A. G. Weeks, Jr.1

(Plate XI, Figure 2.)

Habitat: Suapure, Venezuela. Expanse: 1.10 inches.

Head and palpi above black, below tawny. Thorax above black, below black with gray hairs. Abdomen above black, below brown with a white dash at thorax junction. Antennæ black. Club black above, below tawny. Legs black near body, turning to tawny toward tips.

Upper side of fore wing black. Near apex, in subcostal area, is a small white dot. Below this, skipping one interspace, is a series of five interspacial white spots running downwards towards centre of inner margin, the first two small, the third very large, the fourth small, and fifth a small dot in lowest submedian interspace.

Upper side of hind wing black. A broad and very prominent white band runs from centre of inner margin towards upper angle, extending across onehalf the wing only, stopping near end of discoidal space. Inner margin slightly dusted with gray scales.

Marginal fringes of ground color, turning to white at anal angle.

Under side of fore wing the same as upper surface except that the spots are more closely connected and the ground color is brownish.

Under side of hind wing the same as upper surface except that the prominent band extends completely across the wing from a point near the upper angle, on costa to centre of inner margin and of unvarying width. This band is creamy white.

Variations. — My small series of specimens shows no variation except that the two small subcostal spots are sometimes wanting, and the lowest dot, also, on fore wing.

This species was not found in collections here, nor in the Godman collection, British Museum, etc.

Taken in January, 1900.

#### Nisoniades plummertini A. G. Weeks, Jr.2

(Plate XII, Figure 1.)

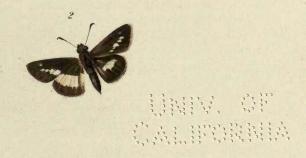
Habitat; Suapure, Venezuela. Expanse: .95 inch.

Head, antennæ, thorax, abdomen, and legs above, very dark brown; below, lighter brown.

<sup>1</sup> Psyche, Vol. XIII, Nos. 2-3, p. 67, April-June, 1906.

<sup>&</sup>lt;sup>2</sup> Psyche, Vol. XIII, Nos. 2-3, p. 73, April-June, 1906.





J Henry Blake, ad nat.

B. Meisel, fith Beston.

CALIFORNIA







B. Meisel, lith Boston.

Upper side of fore wing dark brown. Across centre of wing from centre of costa a darker band runs downwards through discoidal space to inner margin. A similar band, but slightly broader, starts from costa and runs down to inner margin at a point near lower angle, following the contour of hind margin. On the inner edge of this band are four subcostal white dots and two more below them in the first and second submedian interspaces. There is a very slight dot also at the end of the discoidal space. The interspaces at edge of hind margin are slightly darker than ground color.

Upper side of hind wing the same as fore wing, the bands being continued to inner margin. The dots are, however, wanting.

Under side of fore wing the same as upper surface except that color is lighter and deader.

Under side of hind wing the same as upper surface except that color is lighter and deader.

Taken in November, 1900.

A specimen was found in the Godman collection unnamed. It is very close to *N. hayhursti* Edw.

## Thanaos parkeri A. G. Weeks, Jr.1

(Plate XII, Figure 2.)

Habitat: Suapure, Venezuela. Expanse: 1.60 inches.

Head, thorax, and abdomen above, very dark brown. Antennæ black with white annulations at base of each joint. Club black above; tawny brown beneath, and approaching white towards base. Legs nearly black.

Upper side of fore wing very dark brown with slight grayish dustings. Near the base is a slight suggestion of gray dusting running from costa towards inner margin scarcely perceptible. The interspaces beyond, in centre of wing and the centre of discoidal space, show a slight gray dusting. Outside of this in a line from costa downwards to lower submedian nervule is a slightly prominent irregular band of gray dusting, broad at costa but diminishing and disappearing towards lower submedian nervule. In apical area outside of this band are four subcostal semitransparent white dots. Hind margin edged with a dark thread, and the hind marginal area has a series of interspacial grayish dashes from costa down to inner margin, well within the margin, and hardly noticeable.

Upper side of hind wing dark brown. The only marking is a suggestion of light brown dashes in interspaces running from upper angle to a point just above anal angle on inner margin. Hind margin edged with a dark thread. Fringe is generous, and near upper angle is edged with white.

<sup>1</sup> Psyche, Vol. XIII, Nos. 1-3, p. 72, April-June, 1906.

Under side of fore wing dead dark brown. The gray dustings of upper surface do not show. The series of interspacial dashes or dustings within the hind margin are fairly prominent. The subcostal white dots are repeated. The hind margin has a dark thread and the fringe shows light hairs in interspaces.

Under side of hind wing dead dark brown. The line of interspacial light dashes of upper surface, running from upper angle downward, are repeated and more clearly defined.

This species is closely allied to *N. tatius* Edw., *N. juvenalis* Fabr., and that group, and a detailed and identifiable description is almost impossible. One specimen was found unnamed in the Godman collection; also one specimen unnamed in the British Museum, taken in Malto Grosso, Brazil.

Taken in December, 1900.

## Erycides nakawara A. G. Weeks, Jr.1

(Plate XIII.)

Habitat: Suapure, Venezuela. Expanse: 2.25 inches.

Head above, black with blue dots encircling the eyes and three thread-like lines of blue crossing from eye to eye; below, white. Antennæ black. Thorax above, black with four bands of blue running parallel to one another from shoulder to abdomen; below, black with white bands. Abdomen above, nearly white with a black band running down its centre from thorax to tip, circled with black at base of each segment; below, black with four white bands parallel to one another running from thorax to tip. Upper joints of legs blue, lower joints black.

Upper side of fore wing black. Immediate basal area brilliant blue. Nervures and nervules black. Beyond this a broad black band heavily dashed with blue in two lower interspaces. Running across the wing diagonally from costa nearly to lower angle is a broad band of semitransparent white. Between this and apex, well below the costa, is a similar white band covering two interspaces only. In the apical area is a patch of similar size with a white dot on costa. Well within the hind margin is a line of blue scalings running from rear apex to lower angle.

Upper side of hind wing black. From the base run three prominent blue dashes, the lower one following close to inner margin and extending nearly to anal angle, the next covering the discoidal space and a little beyond, the third

<sup>&</sup>lt;sup>1</sup> Psyche, Vol. XIII, Nos. 2-3, p. 70, April-June, 1906.



J. Henry Blake adnat.

B. Meisel, lith Boston.



one runs parallel to these and is of similar extent. The first and third are covered with white or very light blue hairs, the central or second one having scaling only. The hind margin is well dentated towards anal angle, the interspaces touched with white. Well within it is a line of blue scalings well broken by the nervules, a continuation of the same markings of fore wing. Near upper angle betwixt this line and the outer one of the three prominent dashes is a dash of blue scales, starting well below the costa and running a quarter inch downwards towards anal angle.

Under side of fore wing black but not as rich as upper surface. General markings the same. Basal blue area of upper surface is represented only by blue at base of costa and a blue diagonal dash beyond. The inner marginal area is dark mouse color except towards lower angle. The dashes of blue noted in the two lower interspaces of upper surface are wanting.

Under side of hind wing black. The appearance of the wing is quite different from upper surface as the prominent dashes of brilliant blue are quite altered. There are three bands, one starting at costa at base and extending downwards until by a slight inward curve it strikes lowest submedian nervule about midway to lower angle; the next band runs downwards from costa, practically the same in area and extent as the first, ending at centre of wing area at the end of discoidal space; the third band represents the hind marginal blue line of upper surface, but is much more prominent. Inner margin edged with brilliant blue.

This species is very close to E. distans Herr. Schaff., and also E. pygmaleon Hew. The group is open to much interesting future work for those who locate in its region.

# Adelpha oronoco A. G. Weeks, Jr.1

(Plate XIV.)

Habitat: Suapure, Venezuela. Expanse: 1.60 inches.

Head and thorax dark brown above, with a slight white dot at base of each antenna; below, nearly white. Palpi black above, white below. Abdomen dark brown above, below nearly white with a dusting of tawny scales on the last two segments. Antennæ dark brown.

The upper side of both wings has the black linings or threads, the brown ground color, and tawny markings so prevalent in many species of this genus.

Upper side of fore wing rich brown. Hind margin slightly dentated. From the centre of costa a broad tawny band extends downwards to centre of inner margin parallel to hind margin. This band is the prominent feature of the

<sup>&</sup>lt;sup>1</sup> Canadian Entomologist, Vol. XXXVIII, No. 3, p. 76, March, 1906.

upper surface. The portion of this band in the interspace at the end of the discoidal space suffuses outwards a sixteenth inch towards hind margin. Above the end of this, in apical area, are two tawny spots. These spots might be considered a portion of the band, but broken from it by an area of the ground color. The basal half of the wing, within the tawny band, is rich brown, excepting four black lines which cross the discoidal space in pairs, and a slight dash of black close to base. This dash is repeated in less degree in the next lower interspace. The pair of black lines next beyond this dash enclose a small space of dark tawny; these lines are repeated in the first submedian interspace.

The upper side of lower wing is of the same ground color, crossed by a very prominent band of white, an extension of the tawny band of the fore wing, and tapering somewhat as it approaches anal angle. The outer edge of this band at its upper portion is lightly dusted with tawny scales. The marginal area outside of this band is rich brown, crossed by three bands or lines of black parallel to one another and following the dentated contour of the hind margin. They join at the anal angle, where there is a prominent tawny spot. The inner marginal area is of the ground color.

On the under side of fore wing the tawny band of upper surface is nearly white, with suffusions of tawny. The discoidal space is white, crossed by two heavy bands of tawny, edged with black. The costa is tawny. Subcostal space near base is white. The hind margin is slightly edged with black, within which is a tawny marginal band, becoming white in the two lower interspaces. Within this, at the apex, are two indistinct whitish spots, one below the other, and there are three more prominent white spots in the three lower interspaces. At the apex, nearer the base than these two whitish spots, are two more larger ones, representing the two tawny spots of the upper surface. The general ground color is blackish, with tawny suffusions.

The markings of under side of hind wing are the same in location and limitation as on the upper surface. The general coloring, however, is much lighter. The white band of upper surface is repeated, showing no suffusion from surrounding areas. Nearer the base is a tawny band running from costa to anal angle. This band is edged with black. Nearer the base is a white band which runs from costa downwards along inner margin, edged with tawny black. The hind marginal area is brown, with a double row of interspacial white lines near the margin, and a band of tawny, edged with black on its basal side, extends from upper angle to anal angle, where it meets the tawny band first mentioned. At their junction they broaden somewhat into a bright tawny anal spot.

This species is in the same group as, and resembles closely, A. aethalia Feld. and A. thesprotia Feld.



J. Henry Blake adnat.

CALLIGORE LIDWINA, Feld.

HO MINIS



#### Callicore lidwina Feld.

(Plate XV.)

This plate is presented in order to show the variableness of the linear markings of this species on the under side of secondaries. The variations are common regardless of locality, and have no significance except to show nature's moods. The specimens represented came from Venezuela to Bolivia.

## Ithomia drogheda A. G. Weeks, Jr.1

(Plate XVI.)

Habitat: Suapure, Venezuela. Expanse: 2.50 inches.

Head black, with a white circle around the eyes. Antennæ black. Club tawny. Thorax above black, with a prominent lemon-yellow spot at the junction with the costa of fore wings; beneath, lemon-yellow. Abdomen nearly black above, with four lemon-yellow dots on the lower segments; beneath lemon-yellow. Legs black above, white beneath.

Upper side of fore wing transparent, with tawny, black, and yellow markings. Costa black. Discoidal space transparent, with dusting of tawny scales towards the base, and a suggestion of a black spot near the centre. A heavy dusting of black scales extends from the costa downwards across the end of the discoidal space, suffusing to hind margin along the median nervure, and also along the first submedian nervule, somewhat tawny near the margin. Apical area black. Between the apical area and the band or dusting of black scales above noted the space is transparent, heavily dusted with brown scales near the costa. The space below median nervure to the hind margin is black, with tawny scales along the nervure.

The upper side of hind wing has the same ground coloring. The upper half of the wing, including the discoidal space and its immediate surroundings, is transparent, the nervures and nervules being heavily dusted with lemon-yellow. The edges of this transparent area are black, the lower portion forming a band across the wing from the centre of inner margin nearly to the upper angle. This transparent area shows a tendency to extend downwards to hind margin in the first submedian interspace. Below this the area to hind margin is tawny. The hind margin has a generous black border, wavy on its basal edge.

The under side of both wings is the same as upper surfaces, the dusting of lemon-yellow scales being more marked. At the apex of the fore wing are four

<sup>1</sup> Canadian Entomologist, Vol. XXXVIII, No. 3, p. 78, March, 1906.

interspacial white spots, and in the black border of the hind margin of the lower wing is a series of prominent interspacial white spots.

Variations. — This species varies greatly in the density and suffusions of its markings. The transparent area of the lower wing in some specimens extends downwards to hind margin, cutting off the black band and the tawny area at the first submedian nervule. The white spots at apex of the under side of fore wing are at times entirely wanting.

## Nymphidium quinoni A. G. Weeks, Jr.1

(Plate XVII, Figure 1.)

Habitat: Suapure, Venezuela. Expanse: 1.30 inches.

Head and thorax above, dark brown; beneath, white. Abdomen above, brown, slightly lighter than thorax; beneath, white. Antennæ dark brown, with somewhat lighter tip and very minute white annulations at base of each joint. Legs white.

Fore wings above creamy white, excepting the costal and hind marginal areas, which are light brown, with darker markings and spots. The brown of the costal area is well developed, covering nearly all the discoidal space, darker at costa than below. In the discoidal space close to the base is a black dot; beyond this, near centre of discoidal space, is a large black spot; at the end of discoidal space is a black line, and this line, with a little of the surrounding brown area, extends downwards into the creamy white ground color, forming a knob more or less prominent. The apical and hind marginal areas are light brown, edged with darker brown on the basal side. Down the central part of the brown hind marginal area runs a line of interspacial black dots. The hind margin bears a dark border distinctly touched with white at end of the first and the lowest submedian interspaces. Inner margin creamy white.

Upper side of hind wing creamy white. The hind margin has a generous brown border, a continuance of the same on the fore wing and identical in every respect, including the interspacial black dots, the marginal white markings, etc.

The under side of both fore and hind wings is the same in its markings as upper surface, but the white lacks its creamy tinge, and the marginal border is nearer mouse color than brown. The colorings of upper surface are repeated but decidedly deadened, and this deadening of under surface color is too well known to need any detailed description.

The interspacial dark marginal spots are more prominent, owing to the lighter background. The dark edging of the hind margins is also more noticeable, and the white marginal spots of upper surface are much more prominent.

<sup>1</sup> Entomological News, Vol. XVII, No. 6, p. 201, June, 1906.





Variations. — Barring variation in size, the colorings in various specimens seem much the same. The greatest variation is in the "jutting" of the brown costal area into the creamy white ground area of fore wing, noted above as near end of discoidal space. The density of the brown of marginal border also varies.

Taken in November, 1899. It resembles quite closely N. pelops Cram.

# Pamphila chinoba A. G. Weeks, Jr.1

(Plate XVII, Figure 2.)

Habitat: Suapure, Venezuela. Expanse: 1.12 inches.

Head, thorax, abdomen, and legs dark brown above; beneath, gray. Antennæ dark brown, with gray on under side at club.

Upper side of fore wing dark brown, with no markings excepting interspacial dark spots along hind margin.

Upper side of hind wing the same as fore wing, excepting that the hind marginal interspacial dark spots are more pronounced, and the edge of the margin is a little lighter than ground color.

Under side of fore wing light brown, close to mouse color. The costal area shows a tendency to some lustre. The hind margin is edged with a black thread and a narrow border of gray. The interspacial dark spots of the upper surface of hind margin are repeated, but not prominently. Inner marginal area grayish.

Under side of hind wing brownish gray, mottled with slight interspacial streaks of darker color. From the costa near upper angle an irregular dark band runs across to near the centre of inner margin. Another branch of this band extends from the same point on the costa down to the anal angle along the hind margin. Outside of this are repeated the interspacial dark spots of upper surface, being black and very prominent. The inner marginal area is light gray, with slight mottling towards anal angle. The hind margin has a dark thread.

Variations. — In many specimens the marginal interspacial dark spots are practically wanting on upper surface. The hind margin is occasionally well bordered with gray hairs; also there is a suggestion of three subcostal white spots on the fore wing, but none of the twenty specimens in my collection show them at all conspicuously. The under side shows but little variation except in the distinctness and depth of coloring of the dark bands.

Taken in August, 1900.

<sup>1</sup> Canadian Entomologist, Vol. XXXVIII, No. 5, p. 175, May, 1906.

## Æthilla Buffumi A. G. Weeks, Jr.1

(Plate XVIII, Figure 1.)

Habitat: Suapure, Venezuela. Expanse: 1.25 inches.

Head and palpi above dark brown, with a few gray hairs; below, nearly white. Thorax and abdomen the same above as head; below, gray. Antennæ nearly black, with indistinct white annulations at base of each joint. Club above black, beneath grayish. Legs light brown, with slight white annulations at joints.

Upper side of fore wing dark brown, heavily dusted with grayish at basal and inner marginal areas. The apical area shows none of this dusting except as slight suffusion from basal side. A series of very prominent semitransparent white spots extends from centre of costa across the end of discoidal space towards lower angle. The first two of these are simply subcostal spots. The next lower is large, covering the entire end of discoidal space. Below this is another large spot, and between these, nearer the hind margin in first submedian interspace, is another but smaller spot. Near the apex are two white subcostal dots. The basal portion of discoidal space has a dark band extending downwards to the centre of inner margin. A similar dark band extends from below the apical subcostal spots to the inner margin just outside the large white spots. These are often indistinct, but show their permanent character in their extension through the hind wing. The marginal fringe is generous, but of the ground color.

Upper side of hind wing is same in color as fore wing, but the grayish hairs and scales quite cover the entire surface. A dark band runs from centre of costa across the wing to inner margin, just above the anal angle, following contour of the hind margin. Nearer the base, and barely crossing the centre of discoidal space, is a similar band. These two bands, as above noted, are continuations of the dark markings or bands of fore wing.

Under side of fore wing dark brown. The large white spots are more contiguous, more as a band. The two subcostal dots are repeated. The lower angle area is lighter than ground color, a branch of it extending upwards through the apical area to the costa.

These markings are not prominent and are softened by suffusion.

Under side of hind wing dark brown, the dark bands of upper surface being repeated but showing more suffusion. Inner marginal area lighter than ground color.

Taken in January, 1900.

<sup>1</sup> Canadian Entomologist, Vol. XXXVIII, No. 5, p. 174, May, 1906.





J. Henry Blake adnat.

B. Meisel, lith Boston.

## Pamphila bryanti A. G. Weeks, Jr.1

(Plate XVIII, Figure 2.)

Habitat: Suapure, Venezuela. Expanse, 1.25 inches.

Head and thorax above rich dark brown, with hairs of a somewhat greenish tinge; below, light brown or mouse color. Abdomen above the same; below, mouse color, tending to white along central line. Antennæ nearly black above; below, the same, suffusing to light brown towards the club. Legs mouse color.

Upper side of fore wing rich dark brown above, with five or six white markings. The costa is well dusted with golden scales from base midway to apex. Hind margin has a slight whitish fringe. In apical area two subcostal white dots. Below these, in centre of wing, are two large white spots, one above the other, and in interspace below, but nearer base, is a much larger white spot.

Upper side of hind wing rich dark brown. From upper angle to anal angle is a line of scattered non-prominent lighter hairs. Hind margin has a slight whitish fringe. The central portion of the wing, covering discoidal space area, has a decidedly dark line in some lights, hardly noticeable on casual inspection.

Under side of fore wing dark brown without the richness of upper surface. The white spots are repeated, being, as in many of this genus, semitransparent. Costa slightly dusted with lighter scales. Inner marginal area darker than rest of the wing. Hind margin is edged with a black thread.

Under side of hind wing the same color as fore wing. The line of lighter hairs of upper surface extending from upper angle across centre of wing towards anal angle and parallel to hind margin, appears as a line of interspacial dots, not well defined, but fairly prominent.

Variations. — In a few specimens there is a white dot at end of discoidal space on upper surface of fore wing, and also a third but minute subcostal dot. The white markings show scarcely any variations, however, in the specimens in my collection.

Taken in January, 1900.

# Achlyodes melcheri A. G. Weeks, Jr.2

(Plate XIX.)

Habitat: Suapure, Venezuela. Expanse: 1.35 inches.

Head, thorax, abdomen, antennæ, and legs rich dark brown (nearly black) above; beneath, a shade lighter.

<sup>1</sup> Canadian Entomologist, Vol. XXXVIII, No. 5, p. 175, May, 1906.

<sup>&</sup>lt;sup>2</sup> Canadian Entomologist, Vol. XXXVIII, No. 5, p. 176, May, 1906.

Upper side of fore wing rich dark brown, nearly black. Towards the apical and hind marginal areas the coloring becomes somewhat lighter, sufficient to show a series of dark interspacial markings along the hind margin. Within this, running from costa towards centre of hind margin, is another series of similar dark markings, forming a band. Still nearer base, and crossing end of discoidal space, is a suggestion of another dark band. These dark markings are so indistinct in a fresh specimen that they would be seen with difficulty. In worn or faded specimens they would, undoubtedly, be quite prominent.

Upper side of hind wing very rich dark brown. From the upper angle to anal angle extends a series of interspacial lighter dashes, following contour of the margin, and above these, near end of discoidal space, are two slight dashes also. These markings are almost too indistinct to warrant mention.

Hind margins of both wings have a slight fringe of ground color.

Under side of fore wing dark brown, but lighter and less rich than upper surface. The suggestions of dark markings are repeated. Inner marginal area a little lighter than balance of wing.

Under side of hind wing the same dark brown, the lighter markings of upper surface being repeated. The basal area has a few indistinct mottlings.

A colored plate of a species like this is absolutely necessary for anything approaching accurate identification.

It may resemble Achlyodes castalus, Hew., but that has three subapical light spots, which do not appear at all in this, and on close inspection of the scale distribution on under side of hind wing considerable difference will be noticed.

Taken in November, 1899.

# Carystus benchos A. G. Weeks, Jr.1

(Plate XX.)

Habitat: Bolivia, two hundred miles north of Cochabamba. Expanse: 2 inches.

Head, palpi, thorax, abdomen, and legs dark reddish brown, lighter beneath. Antennæ dark brown, with white annulations at base of each joint, tip white at base, black at end.

Upper side of fore wing rich blackish brown. Apex dashed with white. Across discoidal space, near its end, is a prominent transparent white band or mark, and below it in first submedian interspace, but nearer margin, is another of similar size. In interspace below this and midway to base at junction of

<sup>1</sup> Entorpological News, Vol. XX, No. 6, p. 263, June, 1909.







J. Henry Blake adnat.

B. Meisel, Ith. Boston.

median nervure and nervule is a third transparent spot of similar size. In apical area semidistant between the first two spots and apex is a small, well-defined, transparent white spot, nearly circular. Hind margin has slight fringe of lighter color.

Upper side of hind wing the same ground color as fore wing, with no markings except two minute but distinct transparent spots or dots midway between end of discoidal space and hind margin. Fringe very light brown, approaching white at centre.

Under side of fore wings dark brown, nearly black in basal area. The four transparent white spots same as above. Near the apex in the first seven interspaces below costa are dashes of bluish gray. In the two interspaces below, the apical dot, and under the dot are also two similar dashes. The white dash appearing at apex on upper surface is wanting on under side.

Under side of hind wings dark rusty brown with scattered whitish scales. The two transparent dots are encircled with very dark brown extending somewhat, in linear form, towards anal angle. Fringe the same as on upper surface.

This species was supposed to be C. basoches Linn. Q, but it is not. It is not represented here or in English collections.

Taken about five days' travel north from Cochabamba in August.

#### Callimormus elides A. G. Weeks, Jr.1

(Plate XXI, Figure 1.)

Habitat: Suapure, Venezuela. Expanse: 1 inch.

Upper side of head, palpi, thorax, and abdomen dark brown; beneath, nearly white. Antennæ dark brown tipped with black.

Upper side of fore wing dark brown. Near the apex are two clear but small subcostal white dots. There are also three subcostal white dots, almost imperceptible, nearly midway from the first mentioned and the base. In the submedian interspace in the centre of the wing are two distinct white spots, the upper and smaller one being nearer the hind margin but touching the larger spot below it. The hind margin has a very slight fringe of ground color.

Upper side of hind wing dark brown without markings.

Under side of fore wing dark brown but much lighter than upper surface. There is a tendency to lighter shading towards apex. The subcostal spots are the same as on upper surface, but the spots nearer base are more prominent. The two submedian spots are also repeated, the lower one suffusing slightly towards the inner margin.

<sup>1</sup> Entomological News, Vol. XX, No. 6, p. 263, June, 1909.

Under side of hind wing dark brown with a suggestion of rust color, the basal area of lighter color with a blotch of the ground color near the costa. In the outer wing area is an irregular light band of basal area color, somewhat ill defined, extending from near the centre of inner margin to a point a little below the upper angle, nearly imperceptible as it approaches angle.

One specimen is in the British Museum, unnamed.

# Atrytone chingachgook A. G. Weeks, Jr.1

(Plate XXI, Figure 2.)

Habitat: Suapure, Venezuela. Expanse: 1.12 inches.

Head and palpi above, dark brown; beneath, white touched with rust color. Antennæ dark brown tipped with rust color. Thorax and abdomen dark above, dark brown; beneath, a lighter brown.

Upper side of fore wing dark brown, matching thorax. Near apex, in interspaces below the costa, are three or four rust-colored spots extending in a line downwards in the direction of lower angle, followed by three larger whitish spots running in a line and increasing somewhat in size towards base, the whole forming an imperfect semicircle around the end of discoidal space. Margin slightly fringed with dark brown hairs.

Upper side of hind wing dark brown without markings, matching ground color of fore wing. Marginal fringe the same.

Under side of fore wing shows spots as on the upper surface. The apical area and costa rust color. The area below the median nervure and to the lower angle is dark mouse color, approaching black near the base.

Under side of hind wing rust color. From upper angle extending across the wing to centre of inner margin is an indistinct lightish line or band, dusted with rust color and more or less prominent on different specimens. Slightly nearer base is another similar line reaching inner margin midway between termination of first band and the base.

This species is not represented in the Strecker and other collections, nor in the British Museum, etc.

<sup>1</sup> Entomological News, Vol. XX, No. 6, p. 264, June, 1909.





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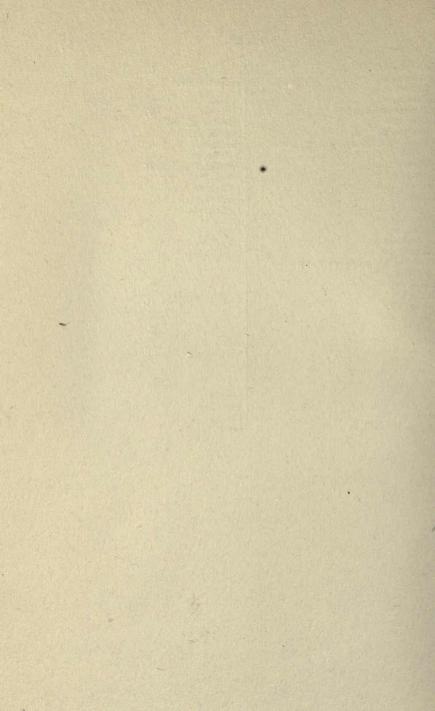
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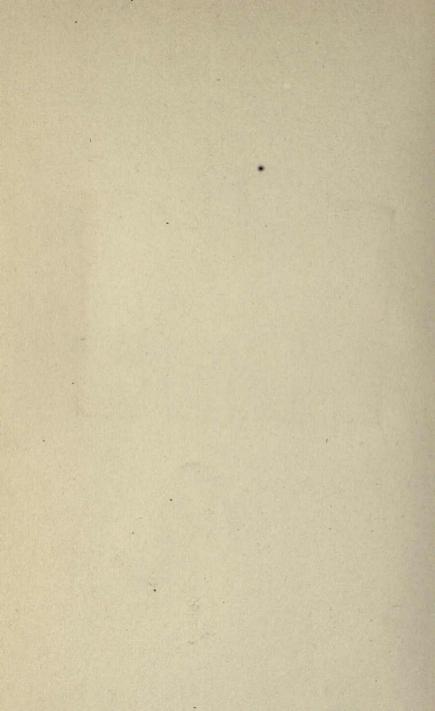
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